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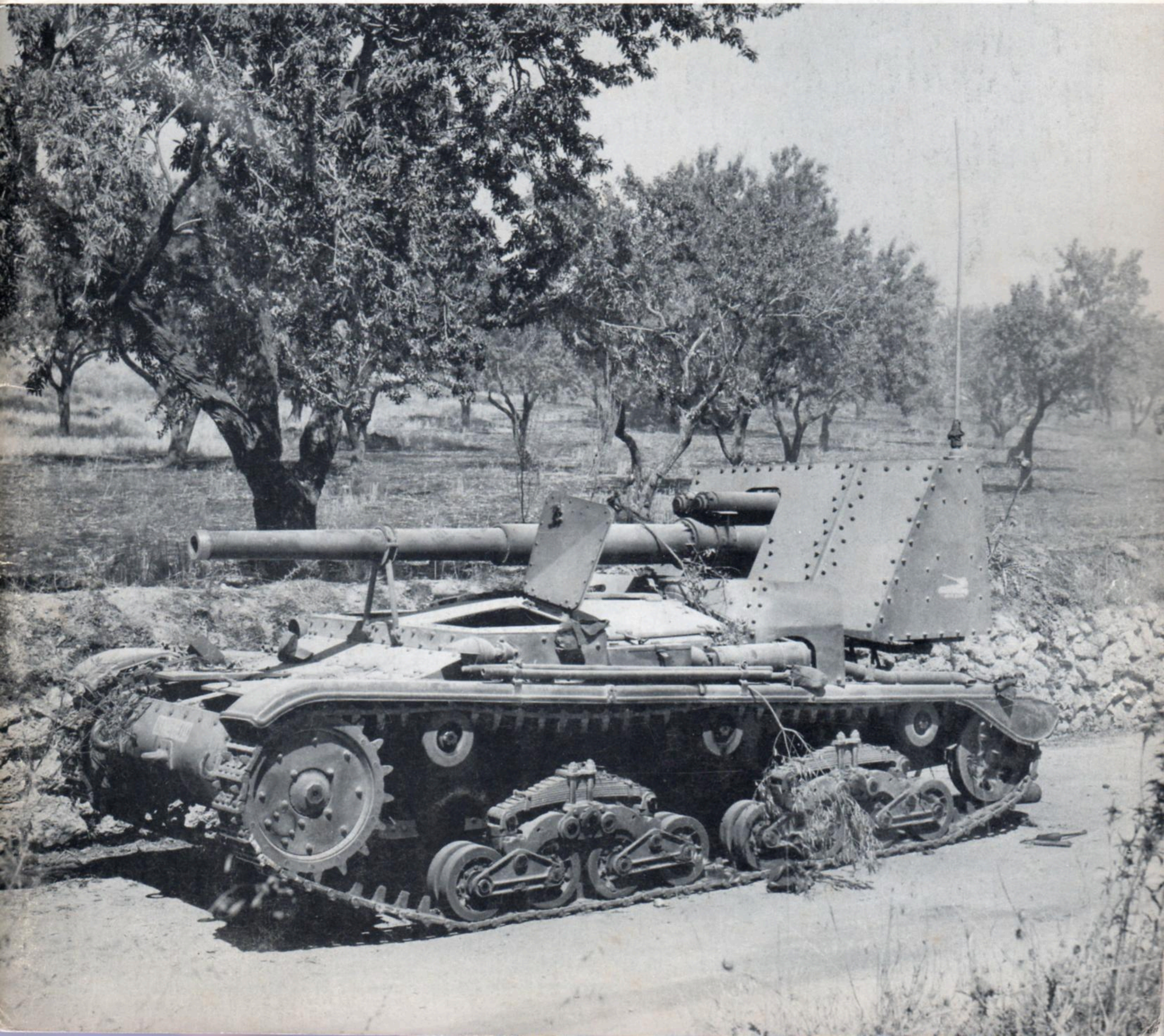
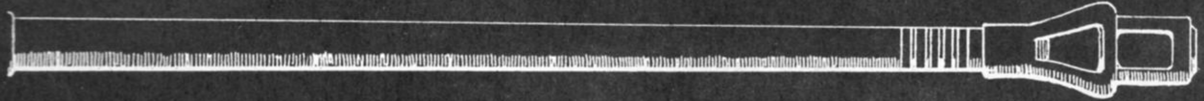
A MAGAZINE FOR MILITARY VEHICLE ENTHUSIASTS

Volume 5 Number 11



Muzzle Blast



LETTERS • COMMENTS • NOTES • CORRECTIONS • ADDITIONS

GERMAN HEAVY ARMORED CARS

Dear Editor:

I would like to express my thanks for S. R. Cobb's center-fold drawings on the German *Sd. Kfz. 234* heavy armored cars. I have been fascinated by these late-war vehicles for a number of years, and I only wish that a modeling company would offer a decent kit of this vehicle (instead of the early-war *Sd. Kfz. 232*) in a large scale. Until then, I can only dream of the conversion possibilities.

I would like to ask several questions about the *Sd. Kfz. 234* series, as well as other German armored reconnaissance vehicles. Could you please provide some information about the units where the following German vehicles were used?

a. *Sd. Kfz. 234/1* armored car
b. *Sd. Kfz. 234/2* armored car
c. *Sd. Kfz. 234/3* armored car
d. *Sd. Kfz. 234/4* armored car
e. *Panzerspähwagen II. 'Lynx'*

Keep up the good work in producing *AFV-G2*, my favorite magazine.

Sincerely yours,

Matthew Clark
Los Angeles, CA

Editor's Notes:

The following information on the employment of the vehicles mentioned in Mr. Clark's letter should prove helpful to readers interested in German armored cars used during the 1944-45 period.

The Sd. Kfz 234/1 *heavy armored car (armed with a 2cm cannon and a machine gun in an open-topped turret) was assigned to a 'Heavy Armored Car Company' which was further designated as a Type D. This company was organic to some of the 1944 type* Panzer-Divisionen. *We will illustrate this unit organization in the next issue of* AFV-G2.

The Sd. Kfz. 234/2 *heavy armored car was usually referred to as the* 'Puma'. *It was armed with a long-barreled 5cm cannon mounted in a fully-enclosed turret. This vehicle was assigned to 'Heavy Armored Car Companies' further designated as the Type A. See* AFV-G2, *Volume 4, Number 11 for an organization chart of this type of company. It does not appear that the* 'Puma' *was used in any other type of company.*

The Sd. Kfz. 234/3 *heavy armored car was armed with the short-barreled 7.5cm gun [which was used earlier in the* Panzer IV. *medium tank], and this vehicle was typically used in the support role, providing fire support to other heavy armored cars. It was typically used in the 'Heavy Armored Car Company Type D' mentioned above. See the next issue of* AFV-G2 *for this organization.*

The Sd. Kfz. 234/4 *heavy armored car was a very late-war modification which mounted the* 7.5cm Pak 40 *anti-tank gun on top of the heavy armored car chassis. The gun was positioned in an open-top turret which provided little protection to the crew. It appears that very few of these vehicles were actually converted before the war's end, and those which were constructed were assigned to* 'Gemischtes-Panzerspäh-Kompanien *(or Mixed Armored Car Companies) which were organic to the 1945 type* Panzer-Divisionen. *We plan to illustrate this type of organization in the future in our regular organization chart series. Incidently, this same 'mixed' company was also equipped with the* Sd. Kfz. 251/22 *armored halftrack which mounted the same* 7.5cm Pak 40.

The Panzerspähwagen II. 'Luchs' *was a full tracked, light armored reconnaissance tank which was the final version of the* Panzer II. *light tank. It was assigned as an alternate piece of equipment (along with the* Aufklärungspanzer 38[t]) *to the* Panzerspäh-Kompanie Typ B *(or Armored Car Company Type B). This organization was illustrated in* AFV-G2, *Volume 5, Number 1.*

AND U.S. ARMY RECON VEHICLES...

Dear Editor:

First, I would like to indicate how much I enjoy *AFV-G2*. Your recent two-part article on Soviet medium tanks was most interesting and welcome. Please continue with coverage of other Soviet vehicles. I am especially interested in the BMP personnel carrier and BMD light tank.

My purpose in writing this letter is to express some concern about the lack of an armored reconnaissance vehicle in the U.S. Army. After the lack of success with the M114, U.S. Army attention focused for a brief period on the armored 'dune buggy' concept (the XR-311...ed.), and this was soon dropped. At the present time, unless you count the remaining M114's, there is not a single armored reconnaissance vehicle in the U.S. Army's inventory which is capable of performing 'scouting' missions. In Europe, the scouts of the Armored Cavalry Platoons are being mounted in tanks, specifically the M551 'Sheridan'. In reality, this means that the 'scouts' have become 'tankers', and that the platoon's riflemen have had to fill the gap as 'scouts'. All for lack of an adequate armored reconnaissance vehicle.

It is obvious that the M114 was a mechanical failure, although in other aspects it seems to have been well designed. I would be very interested in seeing a report on this vehicle from some of the readers who served in the M114. With all the present concentration on the Mechanized Infantry Combat Vehicle, redesigned on the chassis of the reliable M113, there is still no replacement for the M114. Why not? It seems to me that the chassis of the M113 would make an excellent and well-proven, low-cost chassis for development into a reconnaissance vehicle. How about an article in *AFV-G2* which could go into the design aspects for an armored reconnaissance vehicle. Better still, how about publishing some reader-submitted ideas for such a vehicle? I for one would be very interested in seeing how creative we could be in designing a low-cost replacement for the M114. How about it?

Sincerely,

Ralph Perkins
New York, NY

Editor's Note:

How about it? Would readers be intersted in the type of article suggested by Mr. Perkins? We could easily start such an article by compiling a list of the best features required in an armored reconnaissance vehicle.

AND COMMENTS ON 'MARKING BRITISH VEHICLES'...

To the Editor:

Please extend my compliments to Mr. William Platz for his most excellent series on Marking British Vehicles. As your series was directly geared to available models, it is the type of article series which is very useful, as well as informative. British markings seem to have been ignored, even in British modeling publications, and I for one appreciate what Mr. Platz is attempting to do. I sincerely hope that this series will continue for some time to come.

Continued on Page 47

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January - February 1977

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Cover:

Front Cover: One of five Italian Ansaldo *Cannone da 90/53* Self-Propelled Guns found abandoned by the U.S. Army in the Campobello-Canicatti area of Sicily on July 13, 1943. As can be seen, the vehicles are in virtually new condition and one of these five guns was shipped to Aberdeen Proving Ground for evaluation. Note the white miniature SP Gun painted on the side of the gun shield. The Italian Army registration number of this vehicle is *'RE 5809'*. Photo Credit: U.S. Army.

Rear Cover: 'This is a fine mess you've gotten us into', or so seems the remarks of the crew as they survey the thrown track on their M60A1 Medium Tank. However, on a hot, dusty, dry day, there could be worse places to throw a track. The M60A1 and the Armored Recovery Vehicle are from B Company of the 1/72nd Armor, and the waterway is the Imjun River in Korea. This picture was provided by CPT. Russ Vaughn.

AFV-G2 is a magazine, published for Military Vehicle Enthusiasts, with the purpose of gathering and disseminating information about Military Vehicles and their employment; to provide an opportunity for persons seriously interested in the history of Military Vehicles, in the modeling of these vehicles and associated equipment, and in the playing of Military Wargames utilizing miniature vehicles, to share ideas and items of mutual interest and to promote an interest and awareness of the subject of Military Vehicles.

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FIRST IN, LAST OUT!

The History of the Irish Cavalry Corps

by Col. Robt. J. Icks Retd.

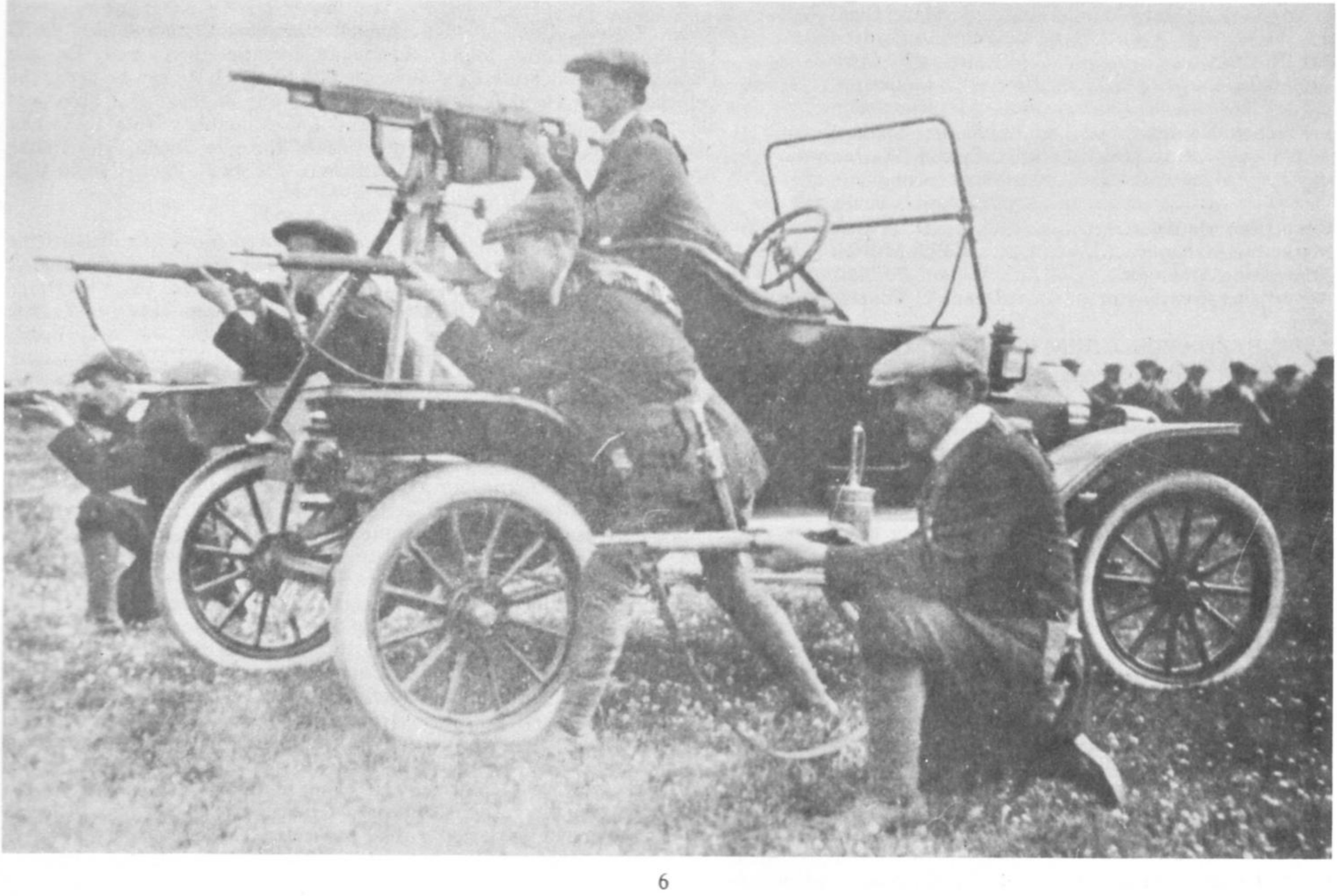
First In Last Out is the motto of the Irish Cavalry Corps. It may come as a surprise to many that this organization was the first totally mechanized such force in the world. One does not hear much about the Irish Army. It is small. Eire is a neutral country and most Irish news concerns the sad events taking place in Ulster, the northern counties of the Emerald Isle that are a part of England. But there is much of interest in the story of the Cavalry Corps of the Irish Army.

It was formed as a mechanized force between the two World Wars when horse cavalry still existed in most larger armies. It had its origins in 1915 in the cyclist battalions of the Dublin Brigade. These were the Irish Volunteers of the time, forerunners of the IRA in its original respected form, when Ireland still was a part of the United Kingdom. But Irish mobility of mind toward mechanization had manifested itself earlier in Ireland by British officers who opposed any effort by Britain to grant any form of self-government to Ireland. These so-called 'Curragh Mutineers' of 1912 had mounted a Colt automatic gun on a cut-down Model T Ford.

In 1916 the Fengal Cyclist Squadrons developed raid and reconnaissance tacitcs during the Irish Rebellion or Easter Uprising. But the use of armored cars did not begin until the last year of the War of Independence in 1921 when a British Peerless armored car was captured. After Ireland, except for the northern counties, attained Dominion status and before the British forces left, they handed over Rolls Royce, Peerless and Lancia armored cars and Crossley Tenders as well as Triumph motorcycles. The Peerless cars were American trucks armored in England for Russia during World War I but the advent of the Russian Revolution prevented their delivery so they were taken over by the British Army. The Peerless and Rolls Royce cars were turreted but the Lancias were not. The Irish later modified most of the Lancias by raising the hulls to the level of the cab and covering their open tops, thus making them into better troop carriers than they had been. They were armed with two Lewis guns. These cars were nicknamed 'Hooded Terrors.' The few not armored over usually had wire mesh roofs. Several cars were fitted with railway wheels by the Railway Product Corporation and used for patrolling railroad lines. One such car had a boxlike hull and a cylindrical turret.

When Ireland became a nation, there were those who remained dissatisfied. Because the diehard elements of the IRA refused to accept anything but an all-Irish Republic, the Irish Civil War ensued. By August 1922 the IRA forces had been confined to the southwest counties centered in Cork, Ireland's

Photo, Below: Curragh Rebel Car in 1912. Photo courtesy of Peter Chamberlain.



second largest city. The National Army on a wide front had been unable to advance so an amphibious enveloping raid was planned. Two passenger steamers with their largely Welsh crews were commandeered on August 7. The next day some 450 National Army troops with a Peerless armored car and one 18-pdr gun steamed into Cork Harbor with the troops concealed below decks. Then it was found that the upper stretches of the river where the city proper was located had been mined and a ship had been sunk across the channel.

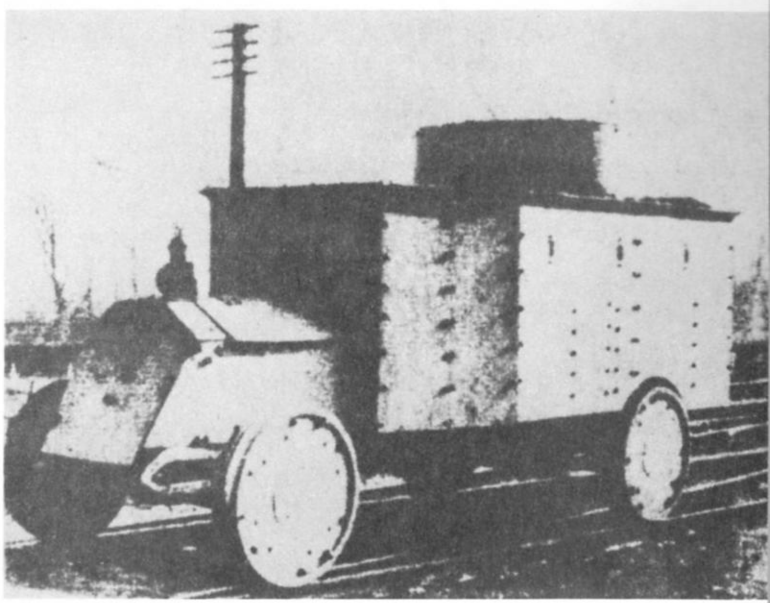
It became necessary to land the troops at a place called Passage West. A crane was used to lift the armored car and the 18-pdr ashore. The IRA fled without resistance. Some skirmishing took place as the party advanced on Cork but the IRA abandoned the city and were scattered, opening the way for the main advance to reach Cork.

The Armored Car Corps was formally constituted in August 1922 with headquarters in Dublin. Vehicle maintenance was handled by the small Army Transport Corps. Nine armored car companies were created with varying numbers of cars, each car crewed by a Sergeant Commander plus three crew members. Although organized as a corps and into companies, the individual cars operated more or less independently.

Corps Headquarters was moved to The Curragh in 1924 and the organization was reduced to a headquarters and four companies, one at The Curragh, one at Dublin, one in Cork and one in Athlone. A Workshops Unit was established, taking maintenance over from the Transport Corps. All companies were moved to The Curragh in 1925. Vehicle strength at that time included 13 Rolls Royce, 7 Peerless and 64 Lancia armored cars. The Corps drifted along somewhat aimlessly until 1928 when a new commanding officer brought it to life. In 1929 purchase was made in England of a Vickers Medium D tank, usually called a Medium C but in actuality a variation of the Medium C tank sold by Vickers to Japan.

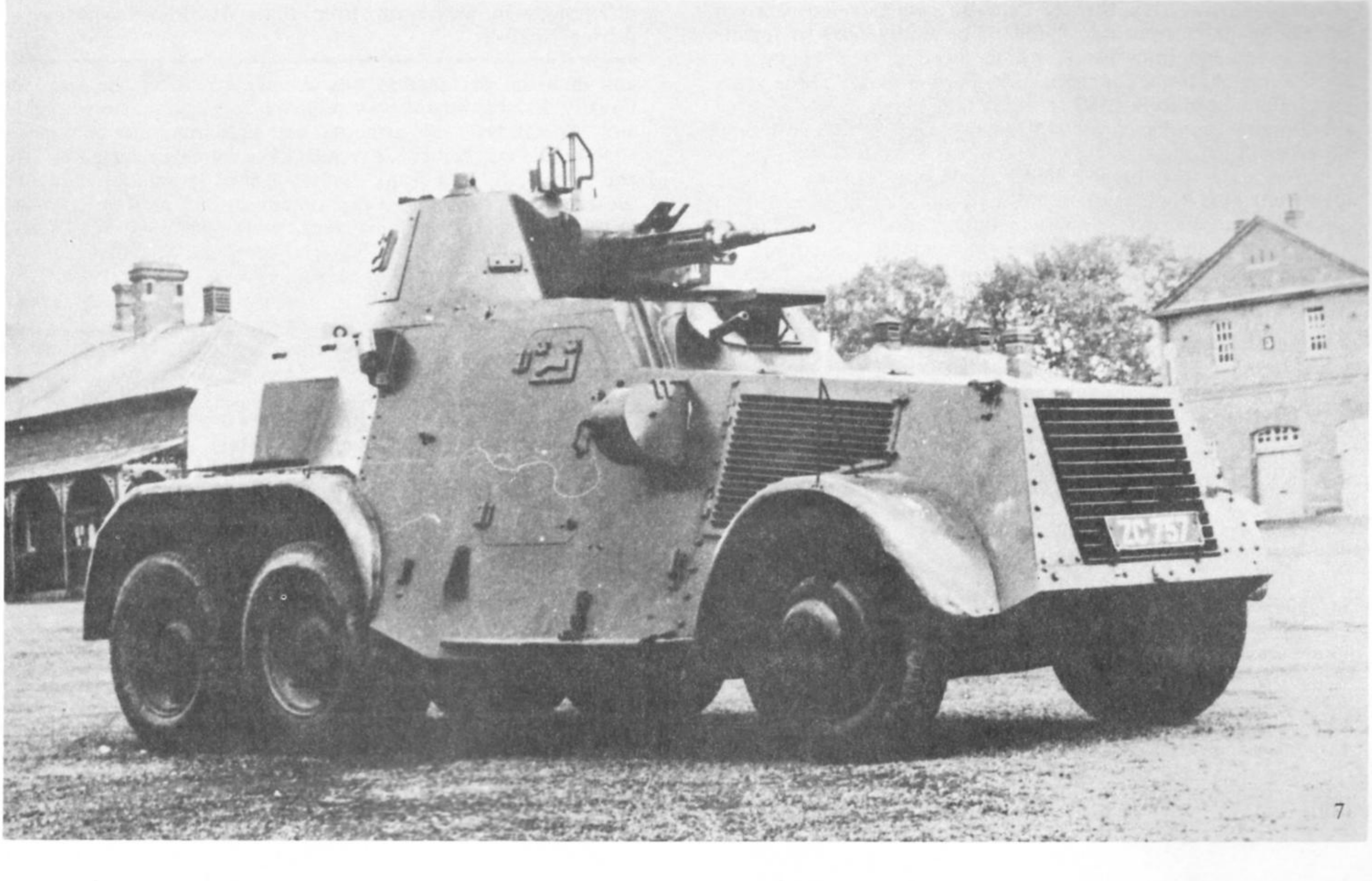
A depot (or recruit training unit) and school were added to the Corps in 1931 and the separate companies were combined into the 1st Armored Squadron. The 1st Cyclist Squadron was added in 1933. The name of the organization was changed at the same time to Cavalry Corps. In the way of dress, the previous visored cap was dropped in favor of the glengarry. In the reorganization, the Cavalry Corps included the 1st Armored Car Squadron, 2nd Armored Car Squadron (Cadre), 1st Cyclish Squadron, 1st Horse Squadron, 2nd Horse Squadron, School and Workshops. A Volunteer Force (a reserve) included 19 Cyclist squadrons, six Horse Squadrons and five sub-depots. Although named 'Horse' squadrons, there were no horses. Instead, all ranks were mounted on bicycles. However, the word did not get around. During a change in station for one squadron, the quartermaster at the new station provided hay, straw and oats, an act embarrassing and long remembered.

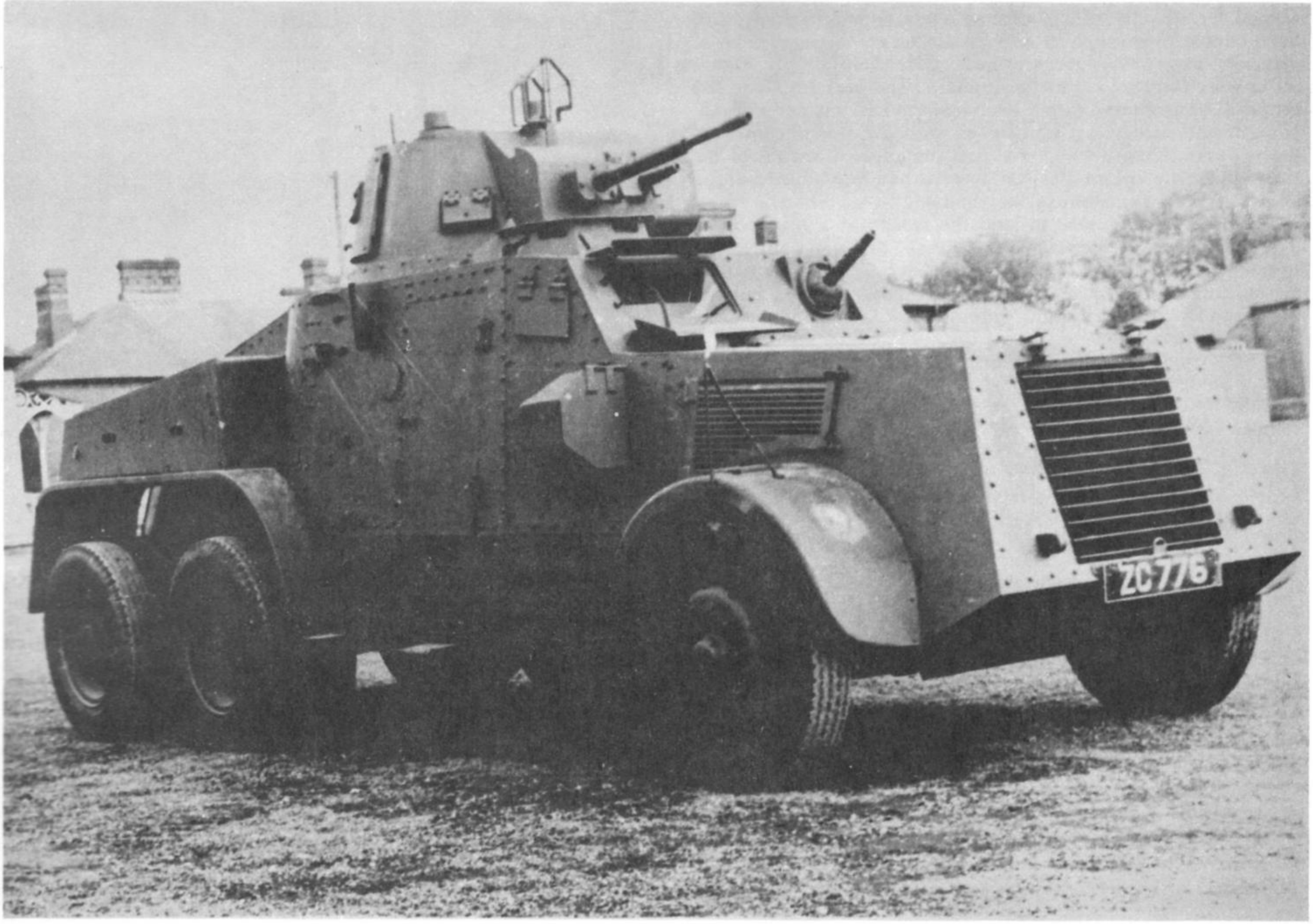
Experimentation in vehicle design began in 1933. Four



Photo, above: Lancia armored car with new hull and turret, modified to run on railroad tracks. Photo courtesy of Denis McCarthy.

Photo, below: Mark II (Landsverk) armored car in Eire. Phot courtesy of Adrian English.





Photo, above: Mark III (Leyland) armored car showing differences in armament from Mark II. Photo courtesy of Adrian English

Leyland Terrier chassis were purchased. It was intended to mount the armor from the old Peerless twin-turreted cars but the use of the turrets was found to be impractical so turrets were purchased from Landsverk in Sweden. The engines in these vehicles later were replaced by Ford engines. Three years later, eight Landsverk L180 armored cars which used the same turrets were purchased as well as two Landsverk L60A light tanks.

Four, six and eight-cylinder Ford light trucks without armor but with wood cargo bodies and pintle mounted machine guns were purchased beginning in 1939. These vehicles, known as 'Bug Chasers' were formed into motor squadrons as reconnaissance units, one for each infantry brigade. The 1st Motor Squadron in 1939 included four reconnaissance troops, each with five cars and 15 motorcycles. Later, an armored troop with four Landsverk and Rolls Royce cars temporarily detached from 1st and 2nd Armored Squadrons replaced one of the reconnaissance troops in this and subsequently organized motor squadrons, of which six more were formed during the World War II period. The Lancias by then had been withdrawn from service.

A 2nd and 3rd Armored Squadrons were formed in 1941. These were armed with Leyland, Landsverk, Rolls Royce, Dodge and Ford armored cars, as well as a Carrier Squadron equipped with British Universal Carriers. The Rolls Royce cars were fitted with commanders' cupolas plus a ball mount for the machine gun. These mounts had been produced for the Ford cars. Four more L180 cars were ordered from Sweden but fell into German hands. A 4th Armored Squadron was formed in 1944. This one was equipped with 40 of several Marks of British Beaverette armored cars. Personnel came from the earlier Carrier Squadron which was disbanded. The 26 carriers were turned over to infantry units.

All these units were formed into the 1st Armored Regiment during World War II for some large scale maneuvers in 1942 and then the designation was abandoned. After the war, the Cavalry Establishment was reduced to Headquarters, School and Workshops, one armored car squadron and one motor squadron. Four British Churchill tanks were purchased in 1948 and operated by a Tank Cadre. An experimental 60-pound rocket and projector were experimentally mounted on one tank in 1959. Eight British Comet tanks were purchased in 1956 and all tanks were combined into the 1st Tank Squadron. A 3rd Motor and a 5th Motor Squadron were formed in 1959.

Ireland was called on by the United Nations to furnish troops for the Congo in 1960. An armored car unit was formed from all cavalry units, making up, in addition to infantry, some 54 cavalrymen in four sections of two Ford and two Landsverk cars. The latter were refitted with Ford V8 engines but before shipping out, it was found that the cars were too heavy for the available air transport and only Ford Mark VI cars were taken. There was a further advantage in that the Fords required only three men competed with five for the larger Landsverk cars. The Ford cars later were modified in the Congo by adding hood louvers, internal cooling fans and new engine filters.

The machine gun ball mounts in these cars were fitted with brakes that were found to be extremely valuable for accurate fire from a halt. Turrets were removed from some cars and pintle-mounted Bren guns were substituted. The cars originally were painted white in accordance with United Nations practice but eventually OD paint was substituted. Spare parts became more and more scarce for these old 1938 cars so eight of them were returned to Ireland. The unit then was loaned American M113 APCs and later gave these up for British Ferrets.

On one occasion the Ford cars took part in a cross country charge against a group of Katangans equipped with American

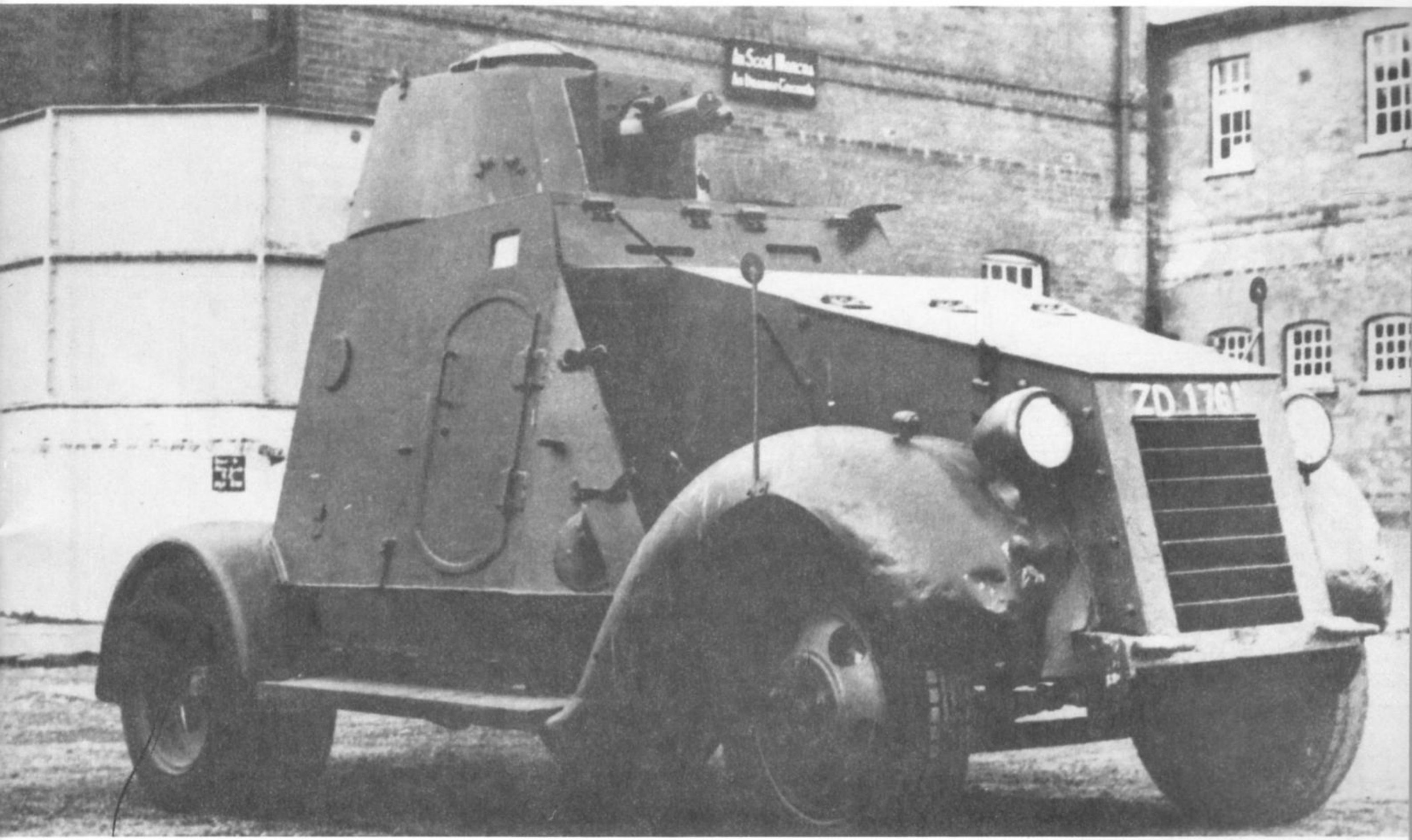
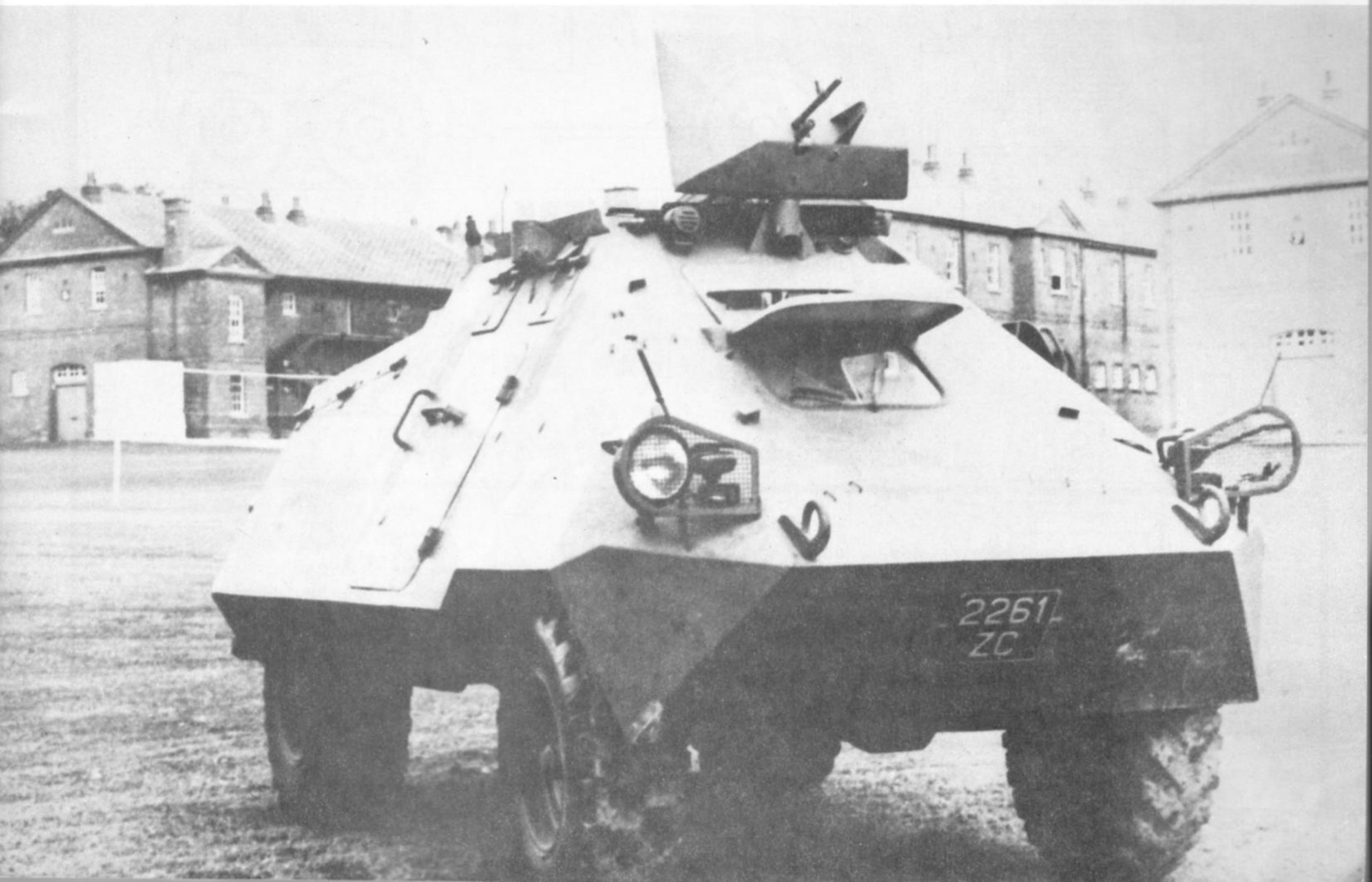
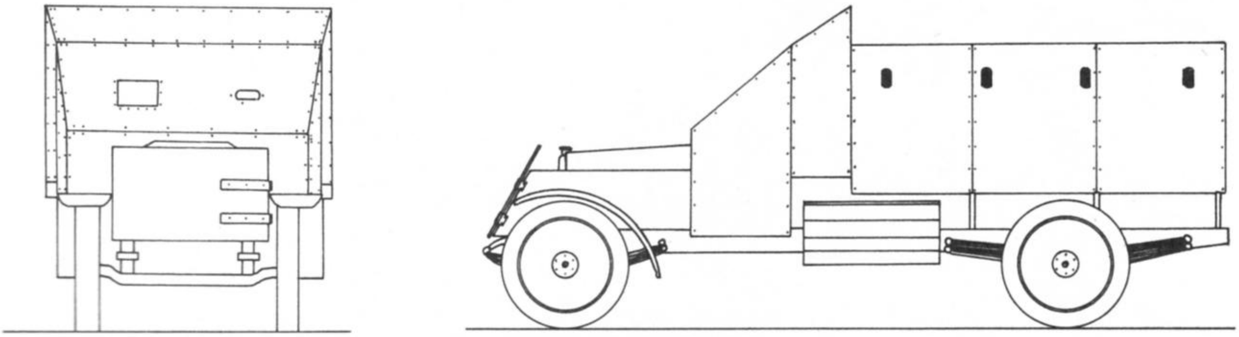


Photo above: Mark VI. Armored Car. (Courtesy Adrian English)

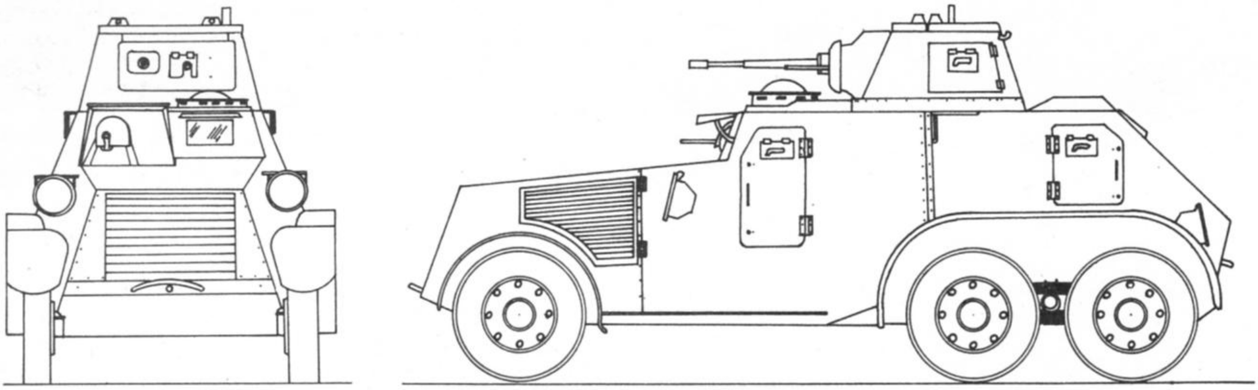
Photo below: Unimog Scout Car in Eire (Credit Adrian English)



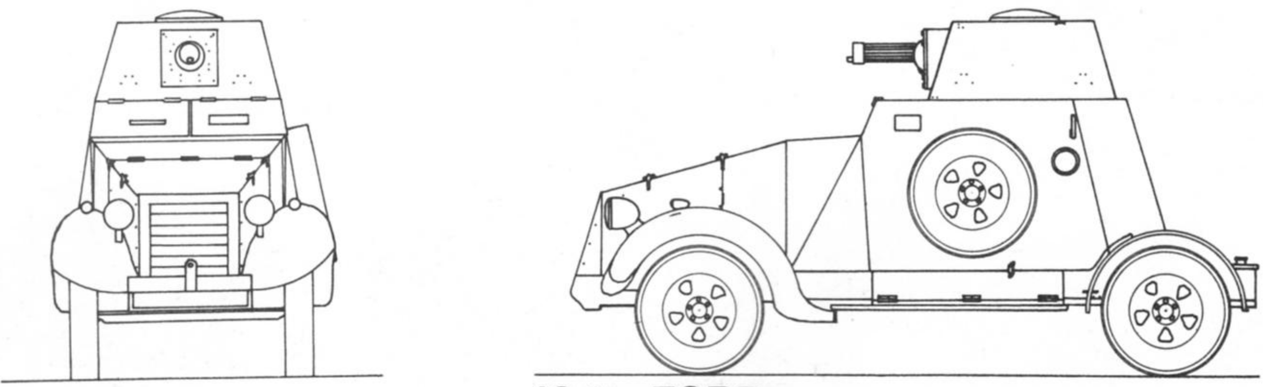
Armor of the Irish Cavalry



1922 LANCIA

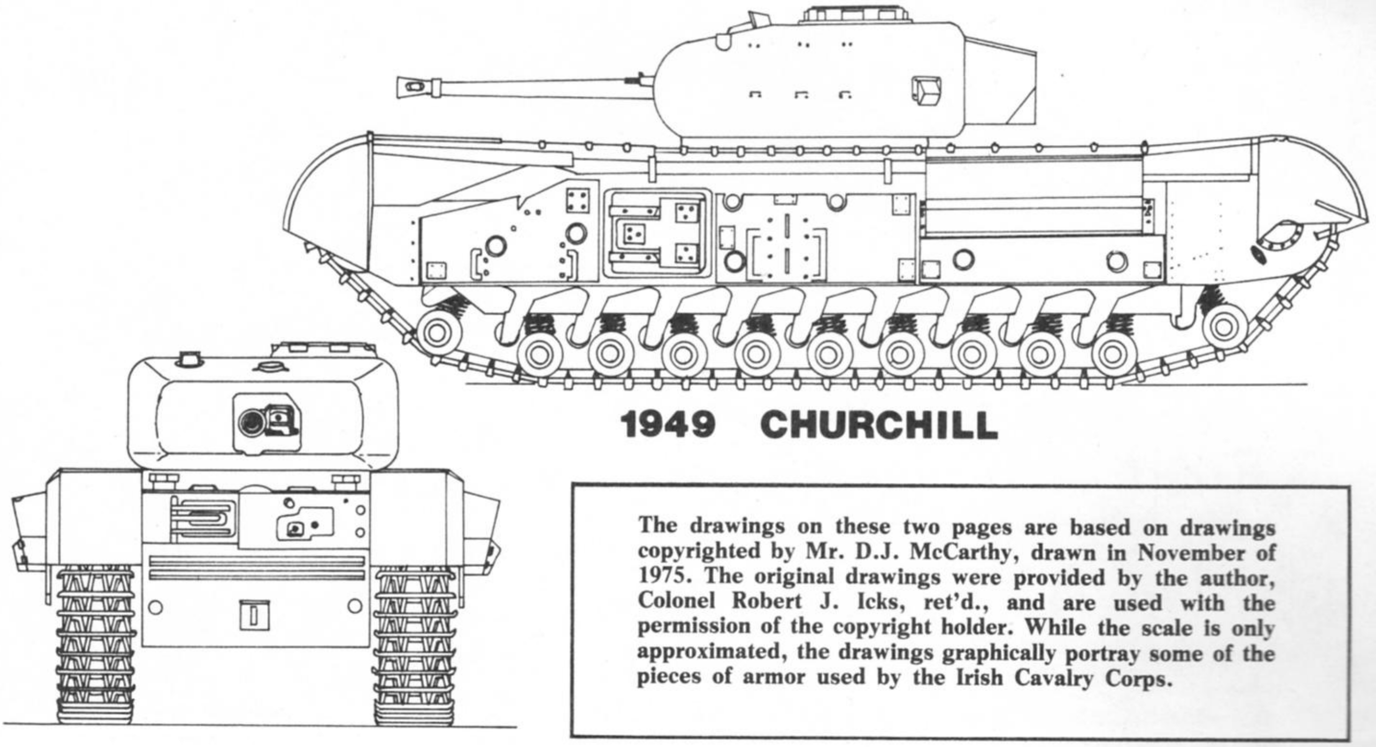


1936 LANDSVERK



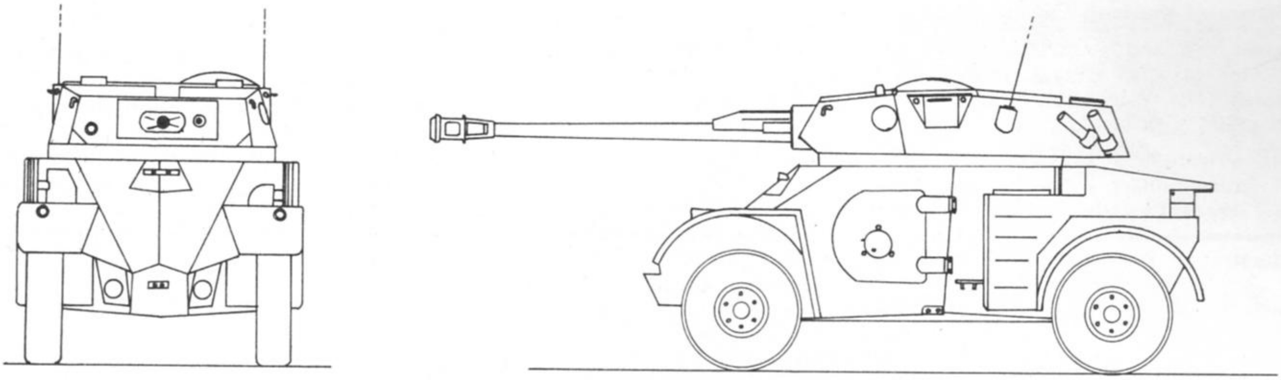
1941 FORD

Armor of the Irish Cavalry



1949 CHURCHILL

The drawings on these two pages are based on drawings copyrighted by Mr. D.J. McCarthy, drawn in November of 1975. The original drawings were provided by the author, Colonel Robert J. Icks, ret'd., and are used with the permission of the copyright holder. While the scale is only approximated, the drawings graphically portray some of the pieces of armor used by the Irish Cavalry Corps.



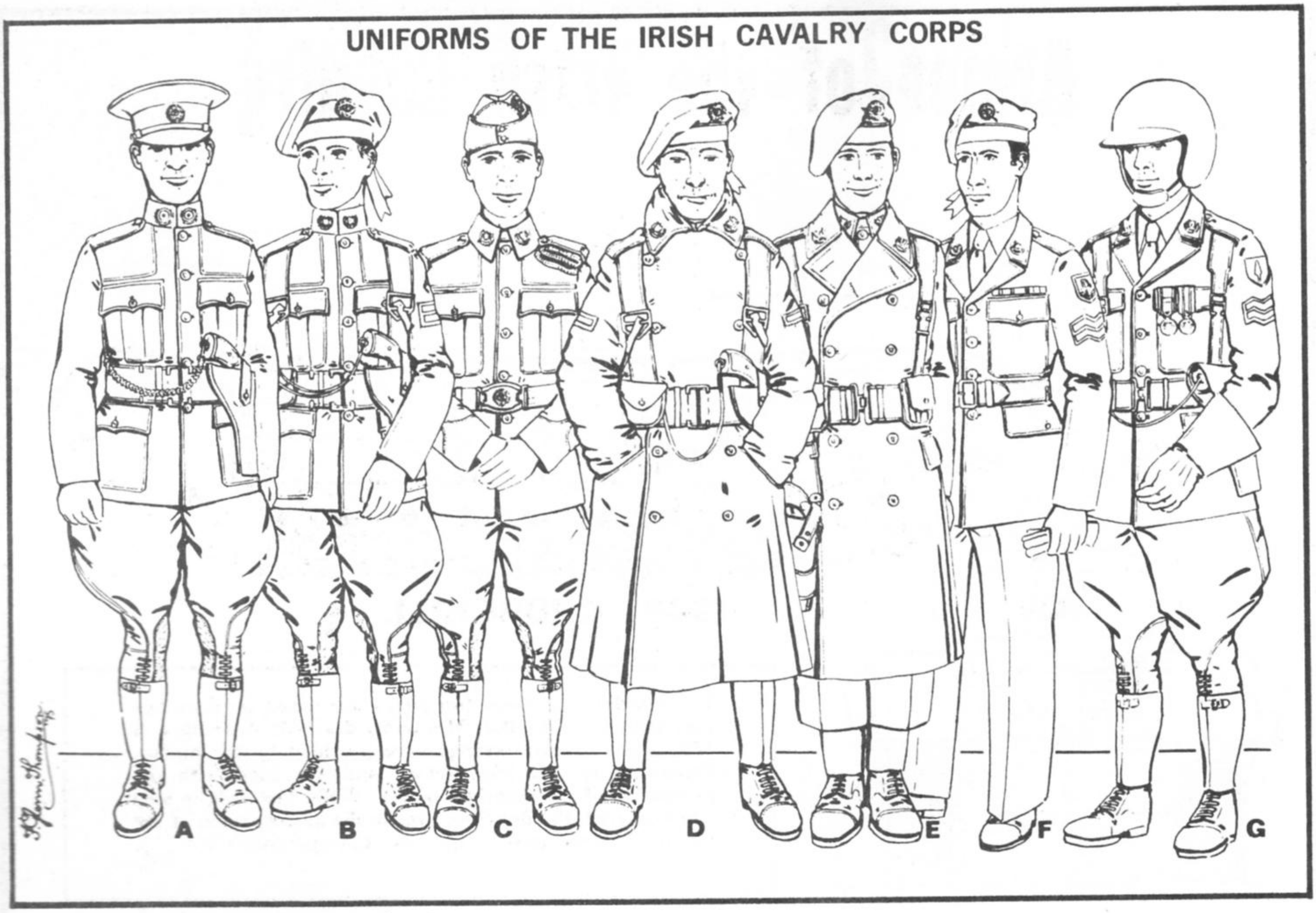
1972 PANHARD H-90

Text Continued From Page 8

M8 armored cars, causing the natives to flee. This resulted in the capture of the M8's, one of which was retained by the Irish. The unit was found to be a morale booster for the other UN forces and for friendly native troops. One valuable lesson learned was that the cars needed the protection of ground troops and vice versa, a lesson that has had to be learned and relearned by every country using armor of any kind. When the UN forces finally were pulled out, the remaining cars were turned over to the *Armee Nationale du Congo*.

Ireland was called on again for troops by the UN in 1961, this time to furnish a contingent for Cyprus. The old cars were completely unsuitable so eight new French Panhard AML60 were purchased with eight more obtained six months later for use by the home-based squadrons. AML H-90 and VTT M3 cars were purchased in France from 1972 to 1974. After the Congo experience, Sweden, which also had participated, had some Unimog scout cars available. Since they were offered at bargain prices, the Cavalry Corps was able to buy them. Now even these are being phased out because of a spare parts problem.

The Irish Cavalry Corps has continued its 'mobility of mind' by keeping abreast of developments elsewhere and by experiments at home. Ireland is not a wealthy country and funds for the Army are very limited. The units have been


UNIFORMS OF THE IRISH CAVALRY CORPS
A
B
C
D
E
F
G

Uniforms of the Irish Cavalry Corps Captions.

Figures A, B, and D wear dark green, 1922 to 1940, after which the color was gray-green until 1964 when a deeper shade was adopted. The Volunteers formed in 1934 wore a distinctive gray-green with bright green facings.

A. Private with brass collar badges, black web belt and leather holster — 1924.
B. Sergeant wearing the glengarry with black head-band and two black ribbons adopted in 1933.
C. Volunteer carrying gloves under the shoulder strap.
D. Corporal in overcoat.
E. Trooper in 1940 wearing improved web equipment with low slung pistol holster.
F. Corporal in walking-out uniform of 1964.
G. Corporal, 2nd Motor Squadron, Presidential Escort, 1976, wearing white helmet and white web equipment.

understrength ever since the Corps was formed except during the World War II period. Presently the Cavalry Corps represents about one twentieth of the total army strength.

The 1st Tank Squadron was disbanded in July 1973 and its personnel were transferred to the Cavalry Depot. There was some discussion about purchasing Centurion and Scorpion tanks from England in 1975. Failing this it was proposed to re-engine the Comets but this also was dropped from consideration. Because ammunition no longer was available for the Comets, it was pointless to try to keep them in operation. A 90mm gun was mounted on the turret race of one Comet in 1974 but this also was considered impractical and was dropped.

The Corps then collaborated with the Timoney Corporation in designing some armored cars to be locally built and it was expected that re-equipping with these would begin with a first order of 50. However, the expected funds failed to materialize and now the cars are available commercially but are produced in Belgium.

The several units of the Cavalry Corps presently are located as follows:

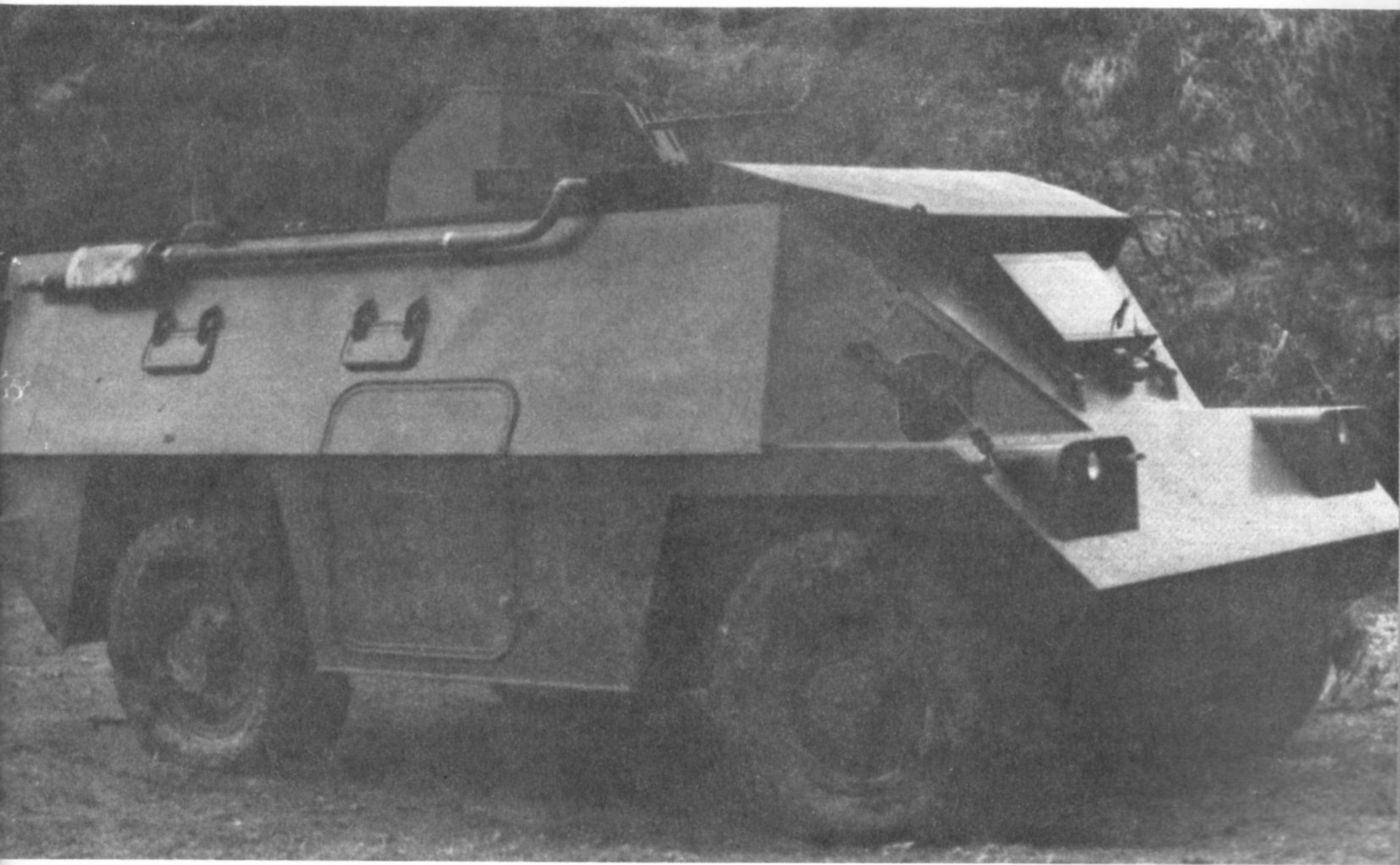
Director and Staff	Dublin
Headquarters, Depot, School, Workshops and Tank Cadre	The Curragh
1st Armored Car Squadron	The Curragh
1st Motor Squadron	Fernoy
2nd Motor Squadron	Dublin
3rd Motor Squadron	Clonmel
4th Motor Squadron	Lonford
5th Motor Squadron	Castlebar
11th Motor Squadron	Dublin

Following is a list of vehicles with which the Irish Cavalry Corps has been or is equipped. The earlier vehicles, or at least some of them, are a bit confusing because they were given unofficial names that duplicated official names for entirely different vehicles.

Mark I, 1920 Rolls Royce Cars Called Whippets, 13 obtained. During World War II period, ball mounts as used on Ford armored cars and a commander's cupola were added to these cars.

Mark II, 1936, Landsverk L180 6X4 cars with HS20mm guns, Browning .30 cal machine gun right front of hull. Eight purchased.

Mark III, 1933, Mark II type hull and turret remounted on Leyland chassis, machine gun moved to left front plate, four converted. Peerless turrets originally mounted on the prototype. Converted Peerless armor was used for the



hulls to resemble Landsverk hulls. Landsverk turrets.

Mark IV., 1938, Ford 1½ ton 134-in w/b truck chassis, octagonal potbelly hull with faceted turret, armored hood, open rear truck body, Hotchkiss machine gun, resembled Mark I., eight built by Great Southern Railway shops at Inchicore. Armor removed and cars sold in 1946.

Mark V., 1938, Ford 122-in. w/b truck, design based on unofficial experimental Mark III. car. Similar to Mark IV. but Hotchkiss machine gun in Peerless turret. 14 built by Messrs. Thompson & Son Ltd., of Carlowe. Armor later removed and cars sold.

Mark VI., 1938, Mark V. with Vickers machine gun in Landsverk turret. 72 built by Messrs. Thompson. Turret same as Mark II. 11 sent to the Congo, later tropicalized there by adding hood louvers, internal cooling fans and new engine filters.

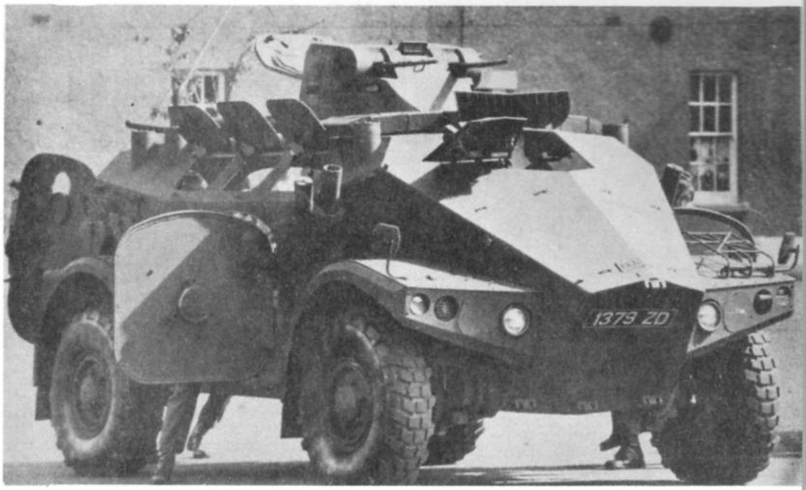
Mark VII., 1939, Dodge 30 HP 160-in. w/b truck shortened to 135-in., similar to Mark VI. but Landsverk turret mounted Madsen 20mm gun and Vickers machine gun. Resembled Soviet BAB car, two built by Messrs. Thompson. Armor later removed and cars sold.

Mark VIII., Mark VII. with Vickers .50 cal machine gun and .303 cal machine gun, three built by Messrs. Thompson.

Mark IX., British Beaverette cars of various Marks. 40 purchased.

Peerless, 1921, Seven cars turned over by the British. Armor utilized for other cars after 1934.

Lancia, 1922, Open top 4x2 cars later modified with armor cover, bevel top edge, twin Lewis machine guns, nicknamed 'Hooded Terror'. 64 obtained. A few cars with wire mesh instead of armor roofs. Some modified to operate on railway rails, one of these with special hull and turret.



Photo, top: Timoney Mark 3 Armored Car (Courtesy Timoney Brothers)

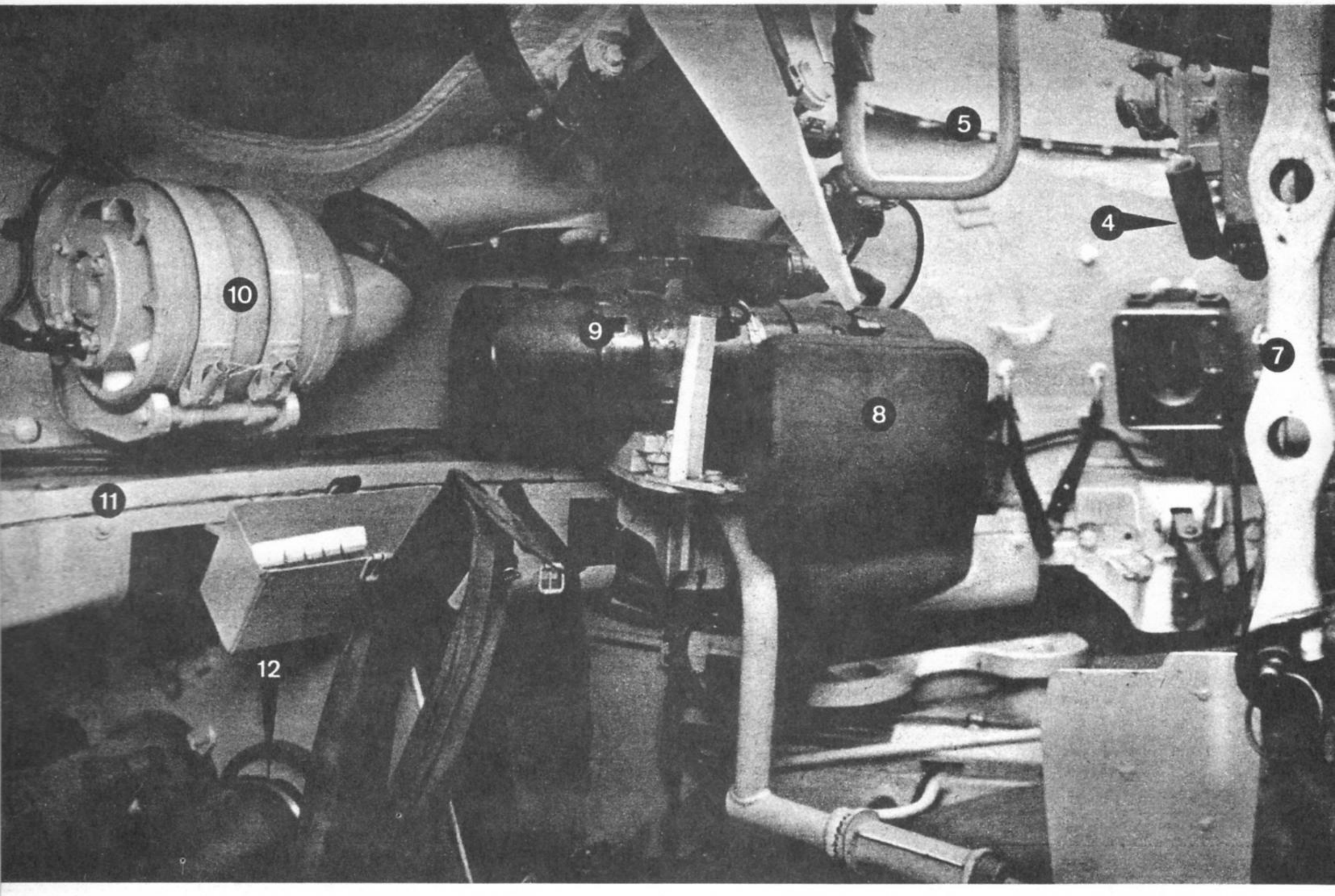
Photo above: French Panhard VTT (M3) in Eire (Courtesy Denis McCarthy)

Crossley Tender, 1922, Open top utility cars obtained from the British.

Ford, 1934-39, Nicknamed 'Bug Chaser' Ford 4-,6-, and 8-cylinder cars without armor but with pintle-mounted machine guns.

Landsverk L60A Tank, Two purchased in Sweden.

Continued on Page 44.

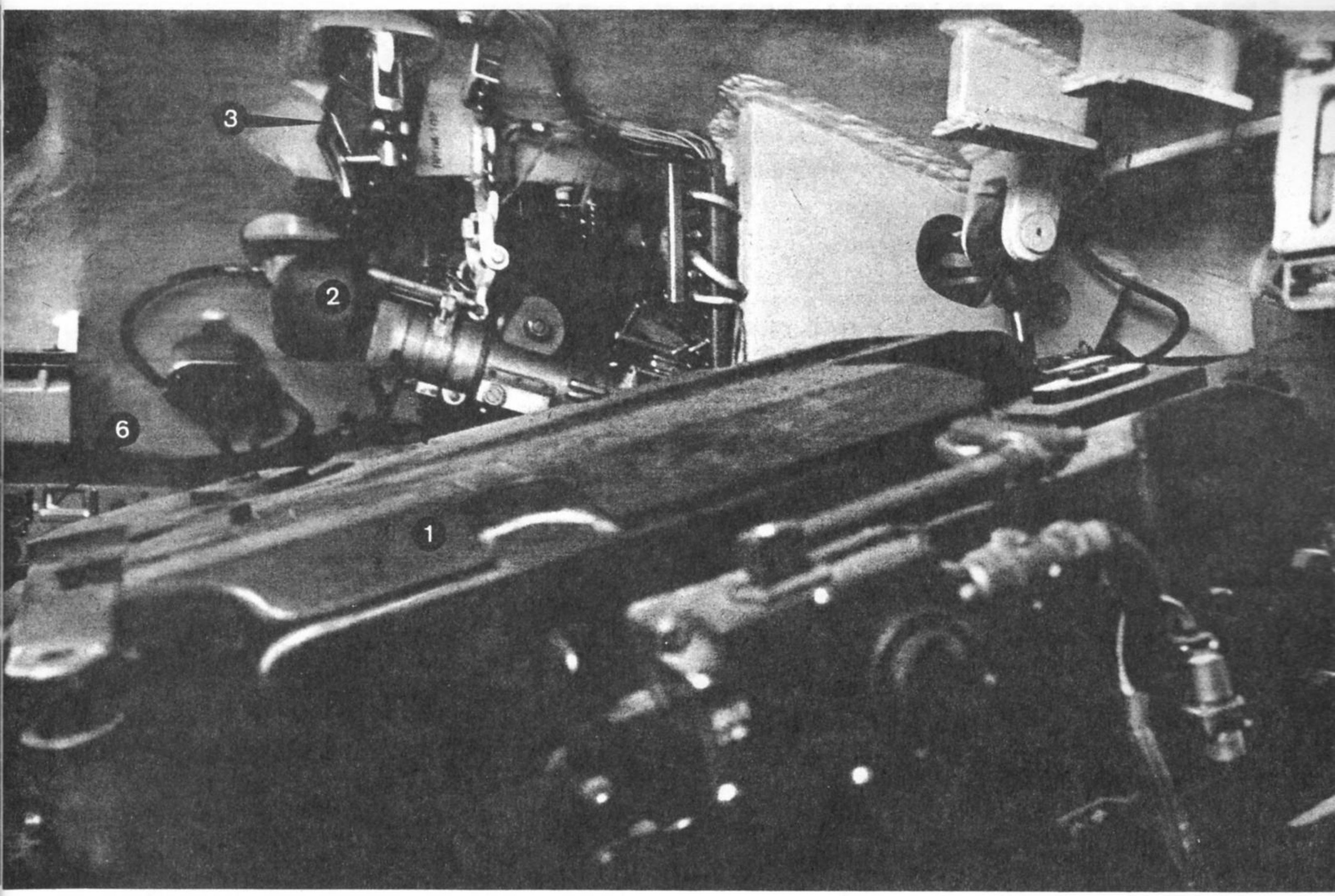


TAKING A LOOK INSIDE

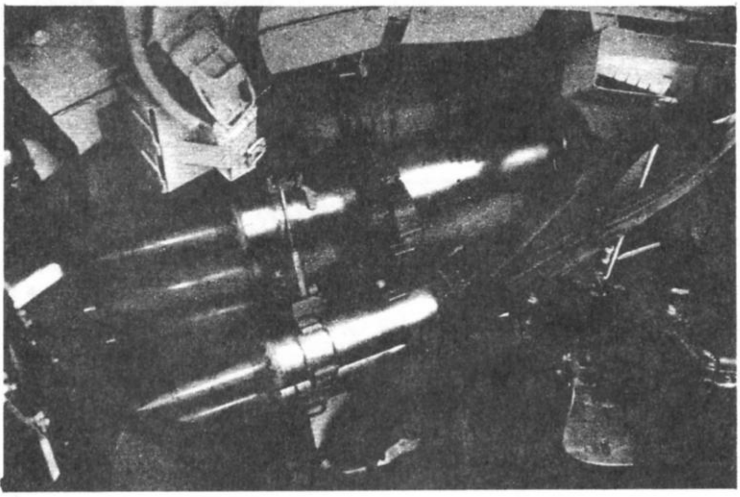
T-62 Medium

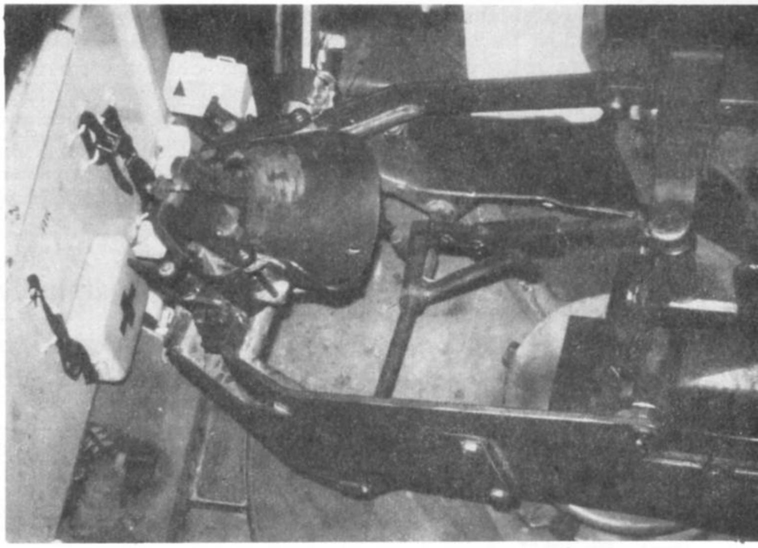
For a number of reasons, it is difficult to obtain good quality photographs which show the interior of an armored vehicle. To a certain extent, this is due to need for rather specialized lighting and photographic equipment to do an adequate job. Additionally, it is quite often difficult for an armor enthusiast to gain access to a particular vehicle for such photography. *AFV-G2* has received a number of requests for pictures of the interior of a typical Soviet medium tank, perhaps inspired by the two-part article on these vehicles which has recently appeared in the magazine. The pictures shown on these two pages are provided in response to these letters and are also intended to graphically illustrate some of the problems which were mentioned in the preceding article.

The two-page photograph, above, shows the interior of a Soviet T-62 Medium Tank captured by the Israelis during the Yom Kippur War. This particular vehicle was captured from the Syrians in virtually mint condition, with less than 50 kilometers on the speedometer. The numbers in the photograph identify various items in the turret, as follows: (1) identifies the breach of the 115mm smooth-bore main gun, behind which is normally located the gunner. (2) identifies the gunner's telescopic sight; the number appears on the rubber face shield of the sight. (3) identifies the gunner's periscope, which provides him with a wider field of view in a forward direction. Behind the gunner is positioned the vehicle commander, who stands and/or sits beneath the cupola, which is identified by (5). The number (4) indicates the target designation system, by which the main gun may be placed on target by the commander. Immediately below this system is the radio-intercommunication control box for the tank commander. (6) identifies the control box for the turret stabilization system; note that this is in a position where both the gunner and tank commander can reach the controls. (7) identifies the travel lock, by which the main gun can be secured from movement during travel. Differing from American vehicles, the Soviets use an internal travel lock. Note that the gun may be secured in three different positions by this locking system. (8) indicates the seatback of the commander's seat. Directly behind the seatback (9) is located the electrical motor which provides power for the turret traversing system. The number (10) indicates the ventilation blower which assists in removing powder smoke and gases from the turret. Air for the turret is brought into the tank through a filter arrangement located beneath the number (11). The ammunition ready racks are located at the rear and left side of the turret, with the rounds stowed horizontally, and indicated by the number (12). The small photo, opposite, shows ammunition stowage beneath the turret ring. Note the APDS rounds, which have a very distinctive projectile shape, which can be easily compared to



THE TURRET OF A SOVIET Tank





the shape of the high explosive projectiles which are stored next to the APDS rounds. The shell ejection system does not show in the larger pictures above, but is visible in the additional small photograph shown opposite. The larger photos, above, and the small ammunition photograph are credited to 'Stern' Magazine, via Mr. John A. Loop. The smaller interior photograph is credited to 1LT Norman G. Dean III.

MARKING BRITISH VEHICLES: A GUIDE FOR SERIOUS MODELERS... PART 3.

CANADIAN 15-CWT. TRUCKS

BY WILLIAM PLATZ

If any vehicle were to rival the American 'Jeep' in popularity and variety of roles, it would have to be the standard 15-cwt. truck of the British Commonwealth. In 1939, every British infantry platoon was provided with a 15-cwt., and the vehicle was also employed by armored, artillery, machine gun, engineer and service troops. Originally, nearly all of the British Army's 15-cwt.'s were produced in the United Kingdom; however, with the loss of tens of thousands of vehicles in the withdrawal from Dunkirk, it was necessary to call upon the Canadian automobile industry for replacements. In July 1940, the first 7,000 trucks were ordered from Canada for the British Army. They arrived in late 1940 and early 1941, and from then on a steady flow of vehicles proceeded from Canadian factories to the fighting fronts. To Britain, Australia, New Zealand, India and South Africa, the 15-cwt.'s were dispatched; and, of course, the Canadian Army kept a goodly number for themselves. With a few individual idiosyncracies, each of these countries used the same basic system of vehicular markings: formation sign, unit serial number complex, tactical signs, and individual identification markings. Thus, as the principal variations in insignia were determined more by the vehicle's function than by its nationality, the following marking data has been organized according to the type of unit being portrayed. In view of the widespread use of the CMP C15A 15-cwt. truck, virtually any formation sign selected would be correct, so the main points to consider are the unit serial number complex and tactical signs.

I. INFANTRY

In 1939, every British infantry division was authorized a total of 531 15-cwt. trucks, and by the time of the Normandy invasion, the division's total of these vehicles had increased to 881. Each regular infantry battalion was alloted 26 15-cwt. trucks, and as these were mainly load carriers, they traveled with the 'F2' and 'A' echelons (support and supply elements respectively). They were not used as towing vehicles for the battalion's anti-tank guns or as mortar carriers, as these roles were filled by Universal or Windsor Carriers. As for markings, these were relatively simple; the infantry division formation sign; the unit serial number on a red, green or brown flash; and the War Department (Census) number in 2½-inch high lettering. Other markings consisted of the Bridge Mark (a black '5' on a yellow circle), and a Recognition Mark. The latter originally began as a seldom-used, white 'X' on the vehicle hood or cab roof (1941); was changed to an R.A.F.-style roundel (1942-1943); and finally developed into the familiar allied white star. Of these, the only potential difficulty comes from the Unit Serial Numbers and the following table lists those applicable for the various theaters and periods.

Motor infantry battalions made even greater use of the 15-cwt. trucks. Until late 1942, they were used as the principal personnel carriers for the motor infantry platoons, in addition to the conventional functions as baggage transport. Markings on these vehicles were similar to those of the regular infantry battalions; however, they also carried a company tactical sign which was based on the squadron insignia used by armored regiments. These were geometric shapes — a triangle for 'A' Company, a square for 'B' Company, a circle for 'C' Company, a solid rectangle for 'D' Company, and a diamond for Headquarters. The color of the shape was determined by the unit's precedence and was tied to the Unit Serial Number. (For a listing of Formation Signs and Unit Serial Numbers of motor infantry battalions in North Africa, see the tables in Part I.).

II. ARTILLERY

Every British artillery unit — from 2-pdr. anti-tank regimants to the 7.2-inch heavy howitzer units — were also provided with 15-cwt. trucks, the total number attached depending upon the type of unit as did the function of each. In the anti-tank units, the vehicles were used as towing vehicles for the 2-pounders (some were converted to portee' configuration by modification fo the cab) and also as load carriers, mobile offices, communications vehicles and command cars. (Although the Peerless/Max kit of this vehicle includes a 6-pounder anti-tank gun, the 15-cwt. truck was not the regular towing vehicle for this weapon.)

Markings for Anti-Tank Regiment 15-cwt.'s consisted of a Formation Sign (armored division, infantry division or corps); a Unit Serial Number Complex (see Table Two); a Battery Tactical Sign; a Bridge Marking; and its War Department Number.

Markings for 8th Army Anti-Tank Regiments during 1942 are given in Tables One and Two of Part I of this article (see

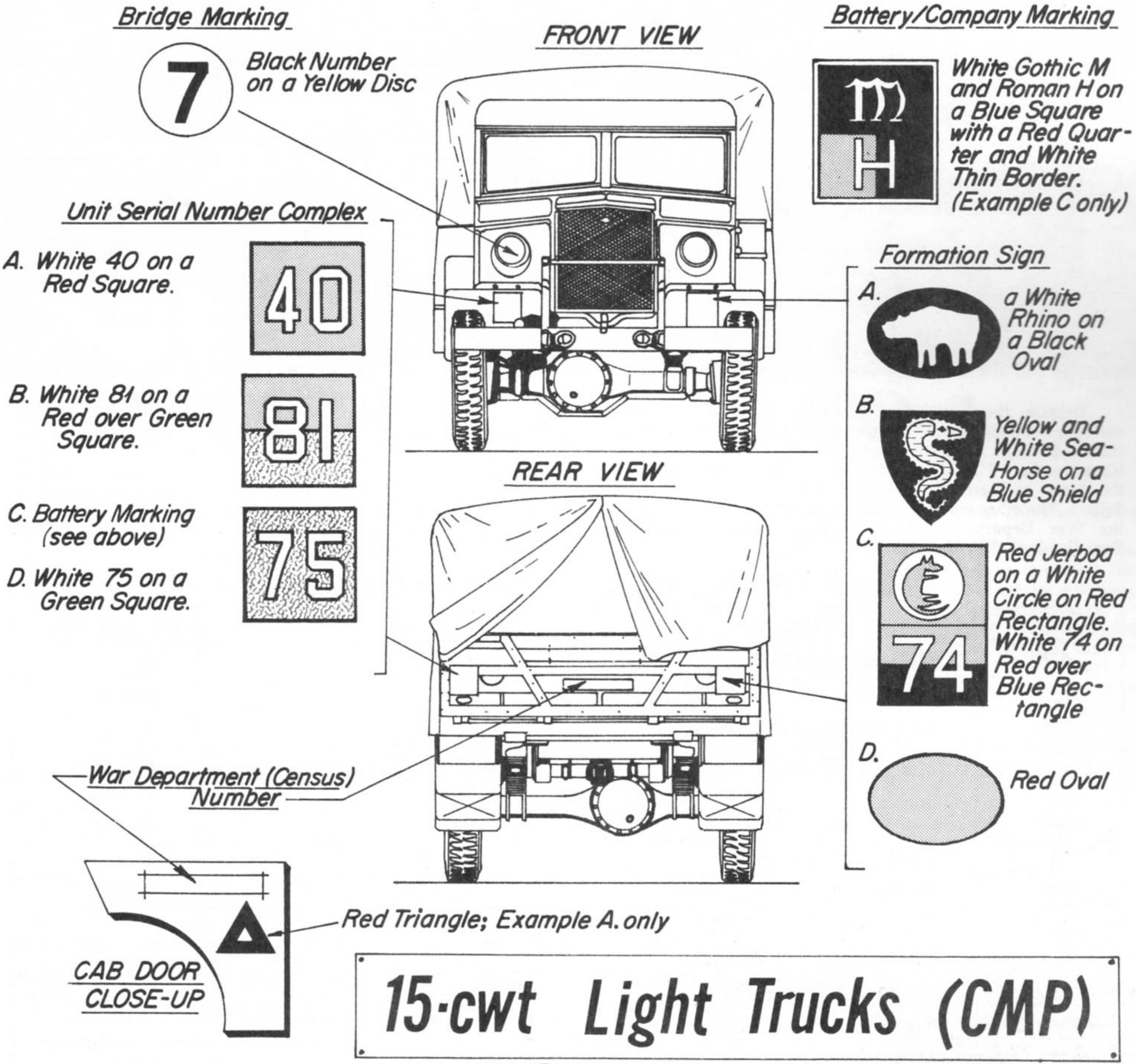
TABLE I. - INFANTRY VEHICLE MARKINGS

	Infantry Divisions of the 8th Army, No. Africa, 1942									*Infantry Divisions of the 21st Army Group, NW Europe, 1944*								
Appropriate Divisional Formation Signs	*44th, 50th, 51st, 1st S.A., 2nd S.A., 2nd N.Z., 4th Ind., 5th Ind., 9th Aus.*									*3rd, 15th, 43rd, 49th, 50th, 51st, 53rd, 1st Can., 2nd Can., 3rd Can.*								
Brigade	*Senior*			*2nd Senior*			*Junior*			*Senior*			*2nd Senior*			*Junior*		
Unit Serial Numbers of Infantry Battalions	*91*	*80*	*52*	*84*	*75*	*92*	*60*	*62*	*89*	*55*	*56*	*57*	*60*	*61*	*62*	*67*	*68*	*69*
Arm-of-Service Color	*Red*			*Green*			*Brown*			*Red*			*Green*			*Brown*		

UNIT IDENTIFICATION TABLE

Example	Unit Description	Notes
A	Sergeant Major's Truck, "A" Squadron, 9th Lancers, 2nd Armoured Brigade, 1st Armoured Division, October 1942 to May 1943	Overall Yellow,
B	Company Commander's Truck, 90th Armoured Brigade Company, R.A.S.C., 27th Armoured Brigade, 6 June 1944, Normandy	Overall Green, White Star and Ring on Cab Roof
C	Command Post Officer's Vehicle, "M" Battery, 3rd Royal Horse Artillery, 7th Armoured Division, Summer 1944, Normandy	Overall Green, White Star and Ring on Cab Roof
D	Support Company Headquarters, 4th Battalion, Royal West Kent Regiment, 132nd Infantry Brigade, 44th Infantry Division, October 1942 to May 1943	Overall Yellow

Drawn by J. Steuard


Bridge Marking
7
Black Number on a Yellow Disc
FRONT VIEW
Battery/Company Marking
White Gothic M and Roman H on a Blue Square with a Red Quarter and White Thin Border. (Example C only)
Unit Serial Number Complex
A. White 40 on a Red Square.
40
B. White 81 on a Red over Green Square.
81
C. Battery Marking (see above)
D. White 75 on a Green Square.
75
Formation Sign
A.
a White Rhino on a Black Oval
B.
Yellow and White Sea-Horse on a Blue Shield
C.
Red Jerboa on a White Circle on Red Rectangle. White 74 on Red over Blue Rectangle
74
D.
Red Oval
REAR VIEW
War Department (Census) Number
Red Triangle; Example A. only
CAB DOOR CLOSE-UP

15-cwt Light Trucks (CMP)

TABLE II. – ANTI-TANK UNITS, 1st ARMY, TUNISIA, 11/42 - 7/43

Formation Sign	Unit Serial Number	Unit
5th Corps	11	93rd Anti-Tank Regiment
1st Infantry Division	46	81st Anti-Tank Regiment
4th Infantry Division	46	14th Anti-Tank Regiment
78th Infantry Division	46	64th Anti-Tank Regiment
9th Corps	11	87th Anti-Tank Regiment
6th Armored Division	77	72nd Anti-Tank Regiment
46th Infantry Division	46	58th Anti-Tank Regiment

AFV-G2, Volume 5, Number 9); units in Tunisia are covered in Table 3; and the same unit serials were also used by units in the United Kingdom and Western Europe from 1942 to 1945.

Field artillery units employed the 15-cwt. truck in the same roles as the Anti-Tank Regiments, although never as a towing vehicle. Markings were also similar, except for the Unit Serial Numbers, and Battery Tactical Signs and Vehicle Codes were applied in the same manner. A full listing of Unit Serials for Field Regiments was included in the preceding part of this series dealing with artillery tractors (see AFV-G2, Volume 5, Number 10); however, an example of a 15-cwt. from the 1st Royal Horse Artillery Regiment is included here.

III. OTHER ARMS AND SERVICES

To present a full listing of **all** units which were issued 15-cwt. trucks — even limited to those with the CMP Chevrolet C15 — would take far more space that is available in a magazine article. Armoured and Tank Regiments, Engineer units, R.A.S.C. (transport) Companies, Ordnance Workshops and the Corps of Military Police all used the 15-cwt. trucks. Examples of an Armoured Regiment vehicle, and an R.A.S.C. truck, as well as the Artillery and Infantry 15-cwt.'s are shown here.

Despite the variety of insignia, there were several markings common to all of the CMP Chevrolet C15's. The standard Bridge Mark consisted of a yellow circle containing a black number '5'. This was frequently omitted on vehicles in the desert as there was a distinct shortage of bridges in the Sahara. The other marking which appeared on all 15-cwt.'s was the War Department Serial Number. Valid numbers for Canadian-built 15-cwt. trucks include Z-219234 thru Z-219283, Z-232501 thru Z-232538, and Z-4213512 thru Z-4213851, among others. Both the British and Canadian military used the same War Department number series, and the only distinction between them is the prefix letter 'C', which was added only to those vehicles **serving** with Canadian units. It must be noted, however, that Australian and Indian Army vehicles used an entirely different series of identification numbers. Australia had its own numbering system with the registration number preceeded by a red 'C' or 'DD'. The Australian vehicles used in the Middle East displayed the letters 'AIF' followed by the type code for a 15-cwt. truck, 'Z', and the serial number. The Indian Army did not used a type code prefix, but began each serial number with an arrowhead pointing upward.

The Peerless/Max kit of this vehicle represents a C15A with the late No.13 cab style — a type first introduced in mid-1942. This unfortunately precludes most North African markings; however, a determined modeler can always convert the model back in time to the 1941 variant, using the No.12 cab details from the Tamiya Quad gun tractor kit. (Note: I didn't say it would be easy.)

The kit includes decals for four different sets of markings... it's too bad that none of these sets are accurate. The first of these is supposedly from the 10th Indian Division, and consists of the division Formation Sign, an Indian Army Registration Number and a Bridge Plate. Of these, the Formation Sign is the wrong shape (it should be square with wide crossbars). The Registration Number is one assigned to a Ford 'wheeled carrier' Scout Car, and the Bridge Plate was not used, except in Italy, and then with a different vehicle color scheme. In short, there is little that can be done with this set except to salvage

Continued on Page 45

TABLE III. - ROYAL ARTILLERY VEHICLE CODES, 15-CWT.

Code	Function	Modification	Tactical Sign
A2	Regimental Clerk	Office Body	R.H.Q.
A3	Regimental Hq. Staff Transport	—	R.H.Q.
Q2	Regimental Officer's Mess	—	R.H.Q.
S2	Regimental Signals Truck	Signals Body	R.H.Q.
S3	" " "	" "	R.H.Q.
S4	" " "	" "	R.H.Q.
K1	Battery Captain	F.F.W.	Battery
K2	Battery Captain's Staff	F.F.W.	Battery
H	Command Post Office	F.F.W.	" "
Y	Battery Survey Sergeant	F.F.W.	" "
M1 thru M5	Battery Signals Trucks	—	" "
GA thru GF	Gun Position Officers	F.F.W.	" "
TLA → TLF	Troop Leaders	F.F.W.	" "

German Tank Hunters:

A SURE BET: 3 TO 1

by MSGT Dick Larsen, USAF

Take a 90mm high-velocity gun mounted in a tracked 26-ton armored body less than seven feet high; add a 500 horsepower engine for speeds up to 55 miles per hour; give it the ability to turn on a dime and leave change; then man it with a motivated, highly skilled crew that likes to kill tanks. Then, just for variation, take the same vehicle, replace the cannon with anti-tank missiles that can wipe out enemy armor at 3,000 meters, guided by a fire control system that only requires two small optical devices showing above a ridgeline...

What do you do when you've done all this? You've got the ingredients of a *Bundeswehr Panzer-Jäger* Company.

The *Panzer-Jäger* (tank hunter) Company is an approach to anti-tank warfare unique to the German Army. Tank hunter companies come in three varieties: cannon, rocket and cannon, and rocket (mixed). Every German *Panzer-Brigade* has a rocket or missile company assigned to it; each armored infantry brigade has a mixed company; and every infantry brigade has a *Panzer-Jäger* battalion with two cannon and one mixed company.

'Tank hunter units are used by the German Army to conduct mobile defensive operations', explained *Hauptmann* Alexander von Raison, commander of the *130. Panzer-Jäger-Kompanie* at Sontra, near Bad Hersfeld. 'Our units are sent into action at important positions to knock out enemy tank attacks, or to chase and destroy enemy tanks that may have broken through the line.'

The *130. Panzer-Jäger-Kompanie* is a rocket/cannon company with 16 gun and 8 rocket tank destroyers. It is classed as an independent company and is assigned to *Panzer-Grenadier-Brigade 13.*, part of the *5. Panzer-Division*, under the German Third Corps.

'In our Brigade role, we have three specific functions', the *Hauptmann* added. 'We can be used as reserve to protect the flanks, be assigned to other Brigade units for special missions, or the company can be split to augment other commands.'

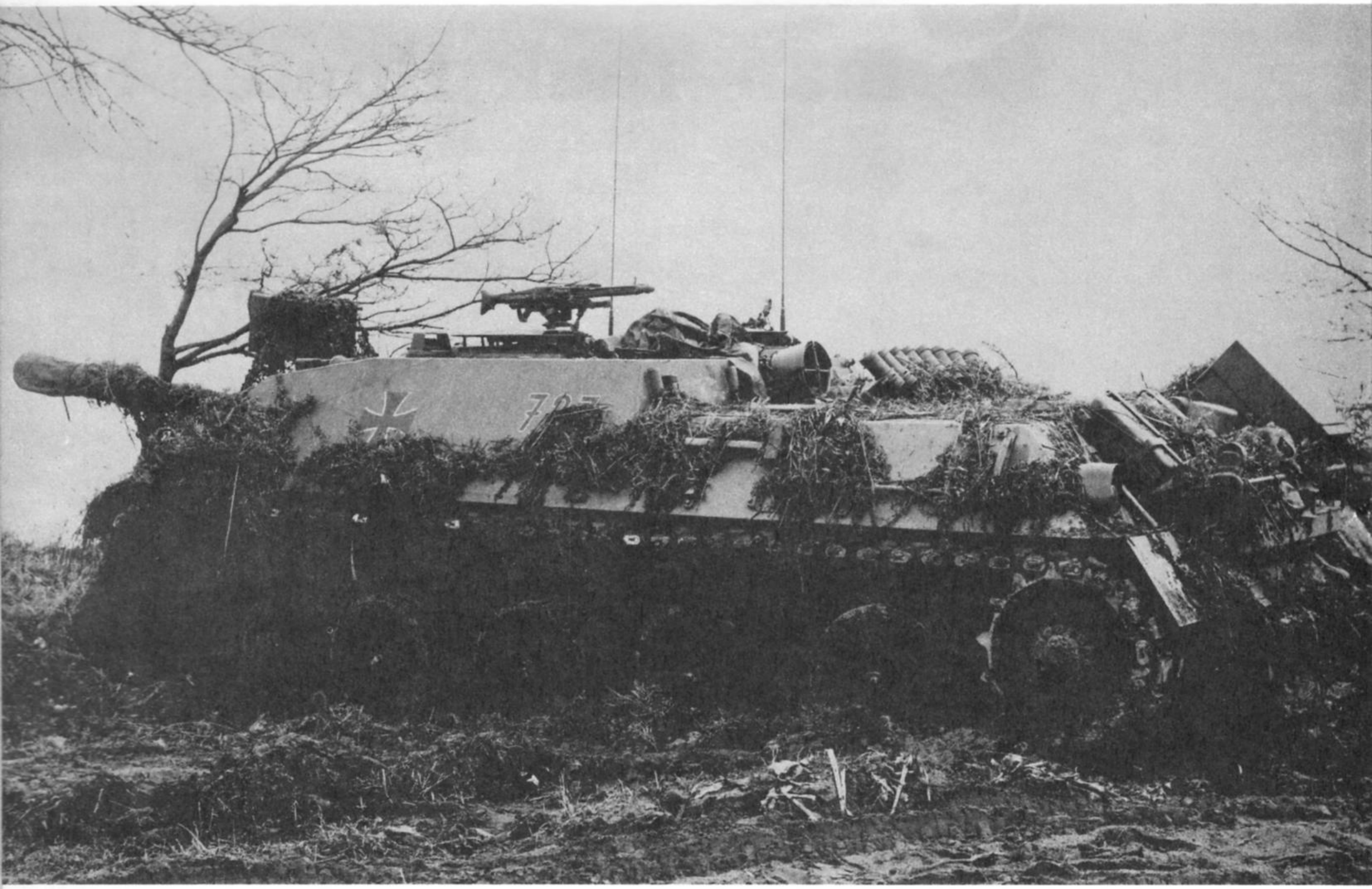
'We have three different roles,' explained *Hauptfeldwebel* Horst Lachnit, the company sergeant major. 'We can support an attack, fight a strictly defensive battle, or take part in delaying actions. But our mission, regardless of the role, is to kill tanks.'

The *130th* is organized into five platoons, three cannon and two rocket. There are three officers, 50 non-commissioned officers and 116 soldiers assigned. Approximately 80% of the personnel are directly involved in tank hunter operations; the other 29% for a combat support team.

The German tank hunter is an outgrowth of World War II., when self-propelled guns were used to battle Allied and Russian tanks. The basic idea was to combine speed with firepower to get the gun where it was needed most as quickly as possible. That line of reasoning has been followed to its present state: a fact, lightly armored, mobile gun for use against enemy armor.

For the *130th*, it means a battle theory that can be reduced to basic terms: kill or be killed. The tank hunter has no turret; the gun can only be elevated or depressed a total of 23°, or traversed only 15° left or right of center. Rocket models can launch their missile in a 90° arc left or right of straight ahead.

'We must depend on speed, maneuverability, concealment



Photo, Above & Opposite: Two views of '727', a 90mm cannon-armed version of the Bundeswehr's Kanonenjagdpanzer *in a defensive position. Things to note in these pictures include the square searchlight mounted over the gun tube, the rear-pointing* MG1 *cupola mounted machine gun, and the array of smoke grenade launchers on the rear deck. Also note the use of natural vegetation as camouflage. Photo Credit:* Bundesministerium der Verteidigung, Bonn, *via the author.*

and fire power.' *Hauptfeldwebel* Lachnit continued. He also pointed to the very low profile of the tank hunter: less than 20 inches of the cannon need be exposed during action, while only the two optical devices of the rocket model have to be open to enemy counterfire.

The two tank hunters are designed to complement each other in a mixed company operation. The rocket version is effective at ranges up to 3,000 meters, while the cannon model is 'zeroed' at 1,500 meters. The rocket hunters knock off enemy tanks at the longer ranges, then withdraw while the cannons take over. This leap-frog concept keeps enemy armor constantly under fire.

'We use the French-built, wire-guided SS-11 rocket at present,' explained *Hauptfeldwebel* Siegfried Purlis, a rocket platoon leader. 'But we will soon be changing over to the *HOT* rocket and that will make our rocket models even more deadly.'

Each rocket hunter carries fourteen SS-11's that are hoisted into firing position on either side at the front of the vehicle. The rocket is launched at a 30° elevation so the destroyer can be hull-down with only the guidance optical devices peering over for rocket control. There is also a remote optic device that can be used away from the vehicle. Each rocket platoon has four 'hunters' assigned.

'Our cannon platoons have five tank destroyers, each loaded with 50 rounds of HEP and HEAT ammo,' said *Hauptfeldwebel* Helmut Kothe, a gun platoon leader. 'We stress fire-shot capability coupled with operational speed.' During recent live firing practice, one of Kothe's crews put six shots into five different targets from distances of 1,200 to 1,500 meters; the whole operation lasted only 45 seconds.

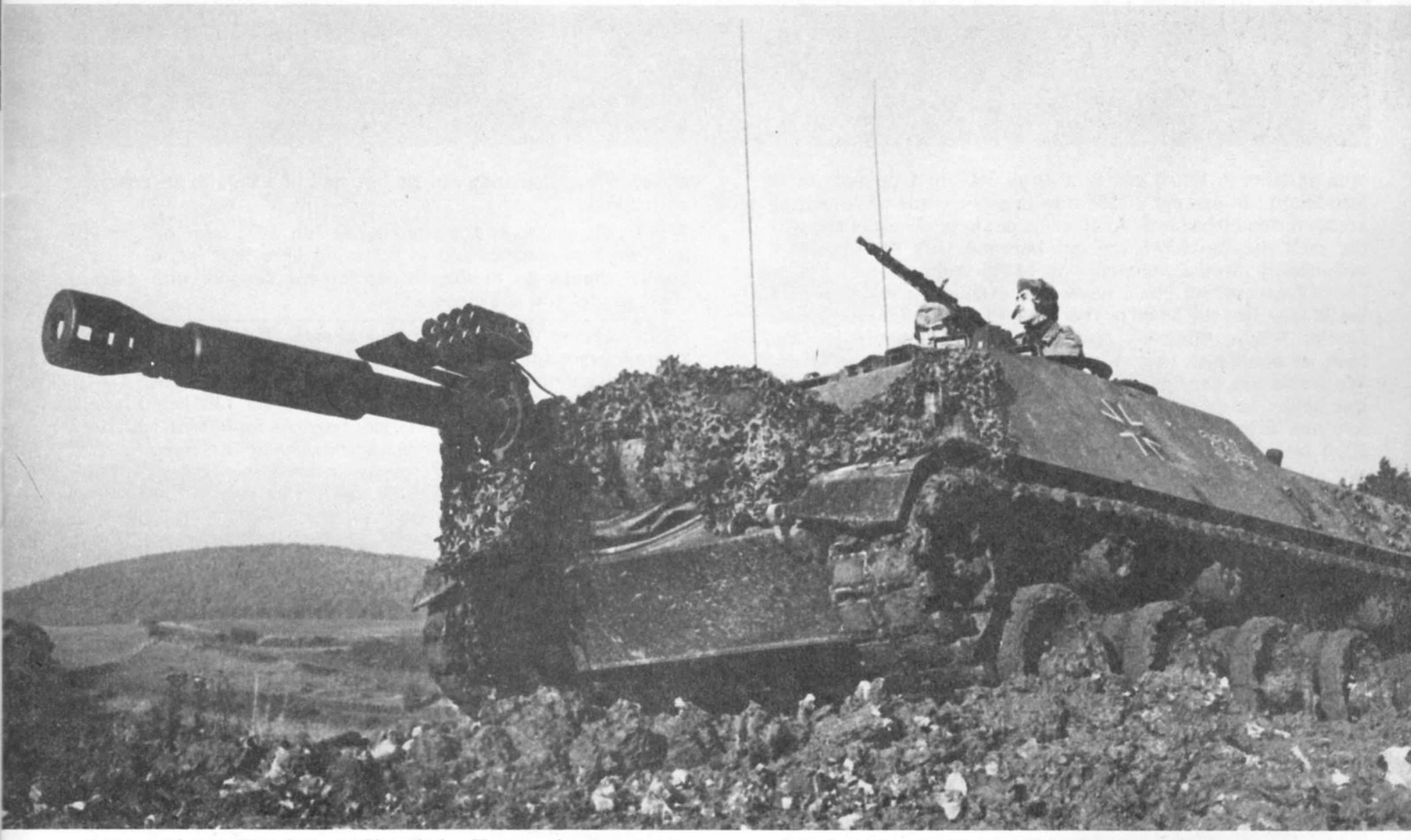
The *130th* is manned primarily by conscript soldiers who total 60% of company strength. Only 5% of the company are career soldiers, while the remaining 35% are men who have enlisted for specific time periods ranging from 2 to 15 years. The high percentage of draftees creates continuity problems in the crews because conscripts only remain with the company a year or less. This continual turnover has placed a massive responsibility on the senior NCO's, who must keep their platoons at peak readiness.

'The real responsibility for success or failure falls on my senior noncoms,' *Hauptmann* von Raison said frankly. 'Therefore, they have almost complete independence in the training programs. They must be able to think in wide operational concepts because their platoon might be called upon to protect a brigade flank. This means that the NCO platoon leader has to know brigade-level tactics if he is to get the job done right.'

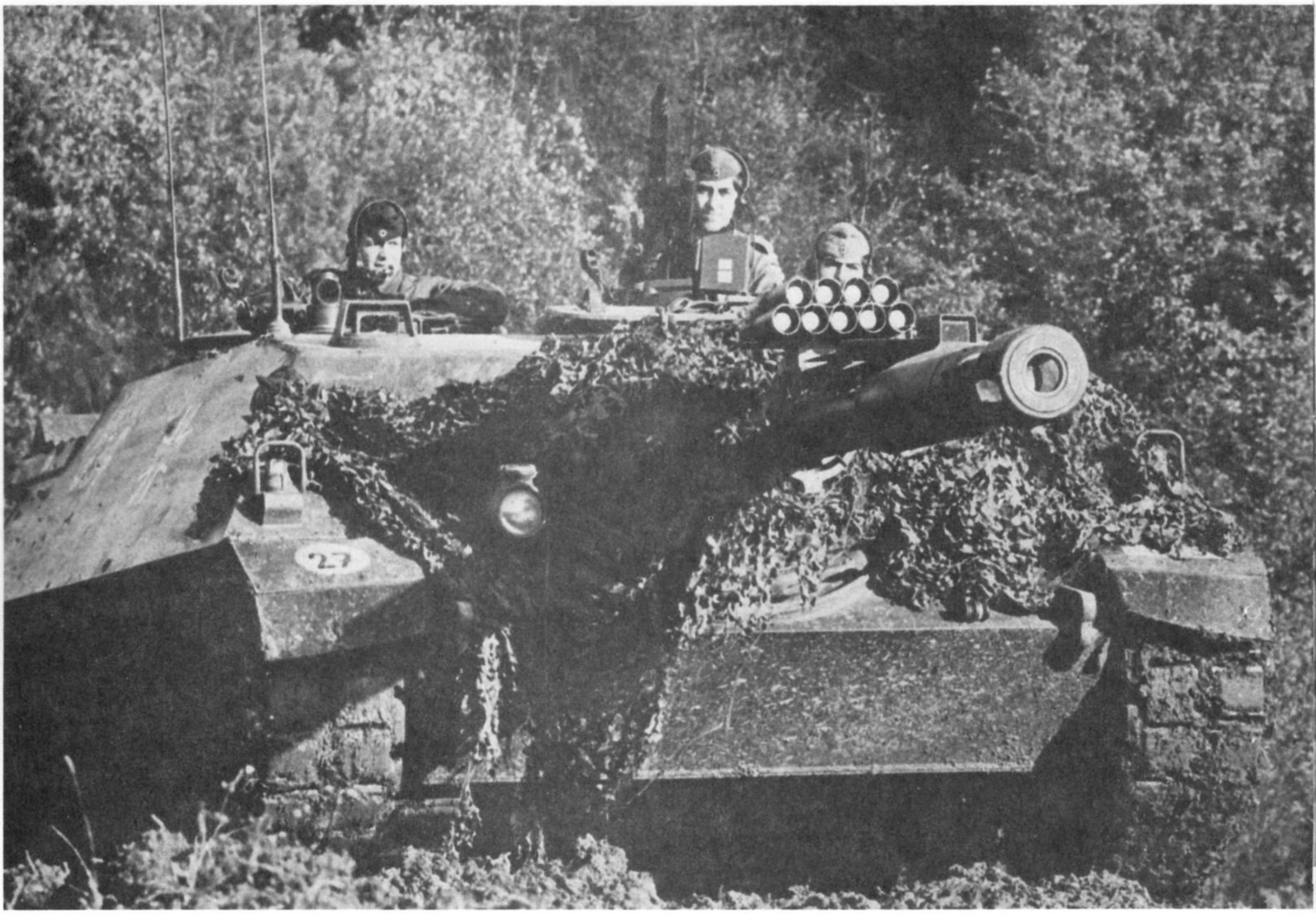
Newly assigned soldiers receive six weeks basic training followed by six weeks specialty training before they arrive at the line companies. Once there, they perfect their skills through regular practical training. Each platoon goes through five hours of night training each week. It takes an average of six weeks before the new soldier can fully function as a member of a *Panzer-Jäger* crew, so the *130th* training program is a dynamic process.

Independent action at the crew level is emphasized. Each tank hunter is commanded by an NCO grade E-4/E-5 who is well schooled in both individual and company tactics. Sand box training periods are conducted regularly to polish academic knowledge.

Teamwork among the crew is vital in the mountainous terrain that surrounds their *Kaserne*, just 5.5 kilometers from



Photo, Above: The low profile of the Kanonenjagdpanzer *is emphasized in this low-angle photo. The multi-tube device above the 90mm gun tube is a multi-shot muzzle-blast simulator used during maneuvers. Note how the draped camouflage netting serves to break-up the vehicular silhouette. Photo Credit: Author's Collection.*



tank gunners to hit. It can turn a full 360° in 4 seconds in its own length, or can cut a 180° turn in a few yards while tearing across the countryside at 30-40 miles per hour. You can see why the men the the *130th* are not impressed by the claims of invincibility often associated with battle tanks.

'Of course, we could never win a slugging match with a battle tank like the M-60 or the Leopard,' said *Hauptfeldwebel* Gunter Wachs, company operations and training NCO. 'But then we don't plan to even give them a chance to take us on. We would use our speed, maneuverability and surprise to kill him before he even know we were there. Then we would move to a new firing position before the others could get a shot in.' Each tank hunter is equipped with smoke grenade launchers that can be used to mask movements.

Cannon gunners sharpen their shooting eye through regular firing exercises using either a .22 caliber or 14.5mm insert in the canon barrel with which they fire at scale targets on a special range.

Rocket crews use a special flare-firing device to practice loading, target fixing, and firing procedures. Twice each year, *130th* recorded an overall mark of 75% hits during range firing. This qualified the company as 'expert' under *Bundeswehr* standards: 50% is required for qualification.

Panzer-Jäger units like the *130th* are not, of course, the ultimate answer to the threat of enemy armored attacks. But they play an important part in German (and NATO) anti-tank philosophy.

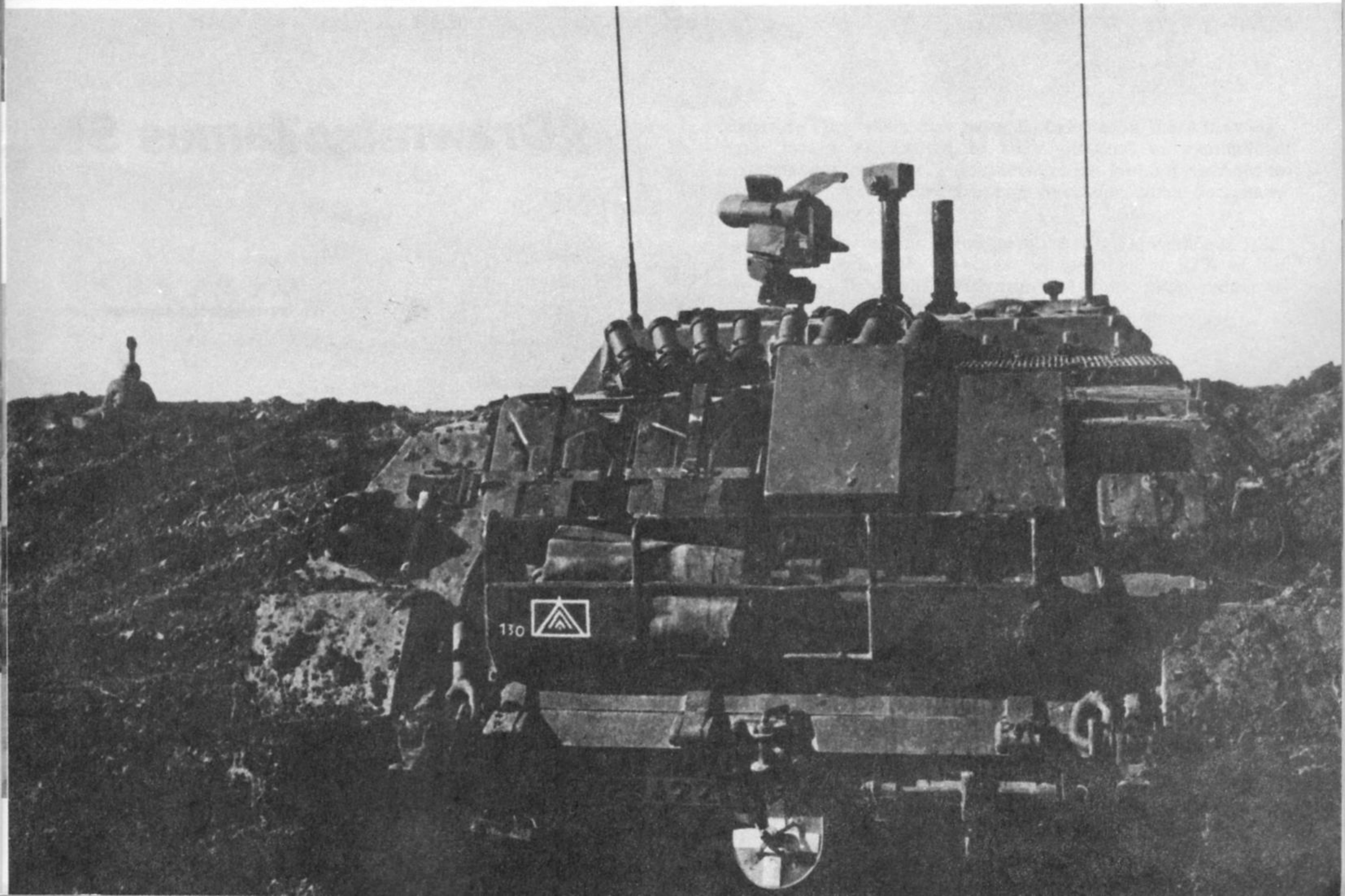
The men of the *130th* like to use a kill ratio of 3 to 1 when they talk about going into action. That is, they will kill three enemy tanks for every tank hunter they lose. With 24 *Panzer-Jägers* to the company, that means that 72 enemy tanks eliminated. In reality, it would probably be even higher. But at only 3 to 1, the tank killers of the *130. Panzer-Jäger-Kompanie* are confident that they can rip one hell of a hole in an enemy tank attack.

This article originally appeared in the July 1975 issue of '*Army in Europe*' magazine, and is reprinted here with permission. Special thanks go to the author for his support with extra photographs and drawings.

Photo, Above: An imposing frontal-view of a West German Kanonenjagdpanzer, *photographed during maneuvers. The camouflage netting draped over the front of the hull serves well to break-up the shape of the tank destroyer. The multi-tube device mounted over the 90mm gun tube is a multi-shot, muzzle blast simulator which gives the impression of a 90mm round being fired. Note that the cupola-mounted machine gun has been moved to the opposite hatch from where it is shown in our drawings. (Photo Credit: Author's Collection)*

Photo, Opposite Above: A West German Raketenjagdpanzer *of the* 130. Panzer-Jäger-Kompanie *positioned in defilade and ready to launch one of its missiles. In the foreground, the gunner sights in on his target and gets ready to assume guidance of the anti-tank missile. In this situation, the only target exposed to the enemy is the optical head of the tracking instrument. The terrain shown in this picture is typical of the zone-of-operation for the* 130th Panzer-Jäger-Kompanie. *(Photo Credit: Author's Collection)*

Photo, Opposite Below: A rear view of the same Raketenjagdpanzer *shown in the picture above. Note the West German tactical marking that identifies an anti-tank unit. This photo is especially good for details of the rear of the vehicle, showing such details as smoke candles, fuel can racks, and markings. Note the optical heads for tracking and guiding missiles from inside of the tank destroyer. (Photo Credit: Author's Collection)*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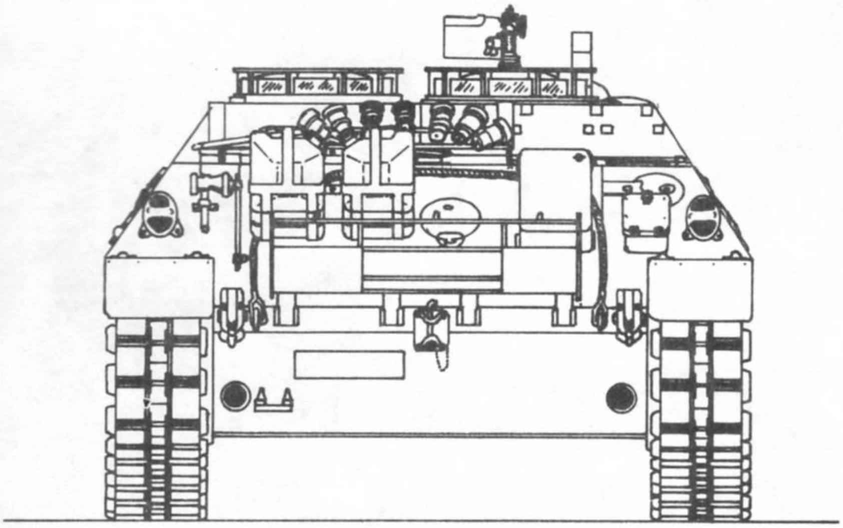
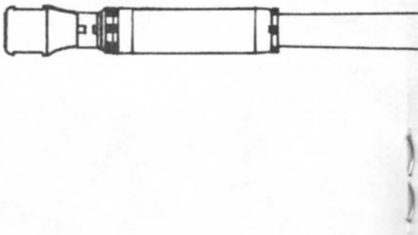
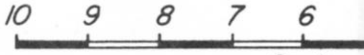
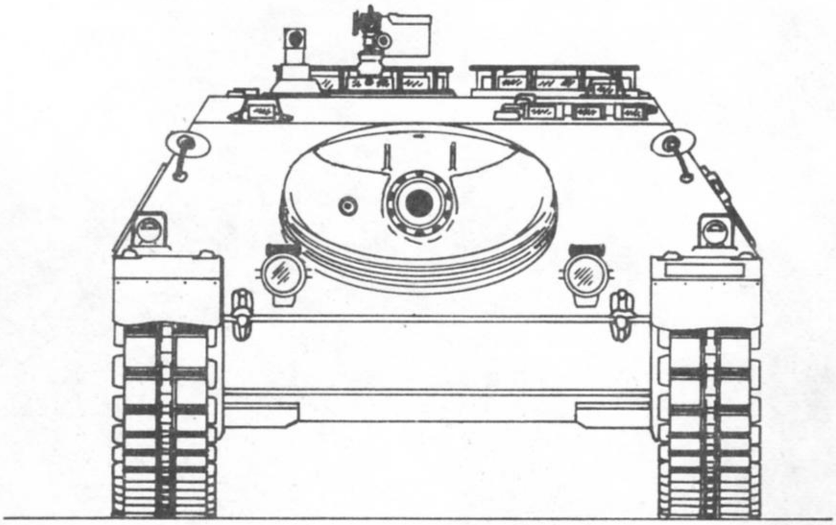


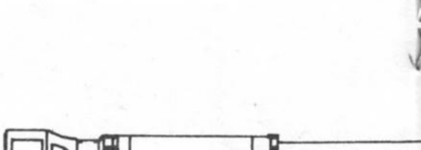


West German

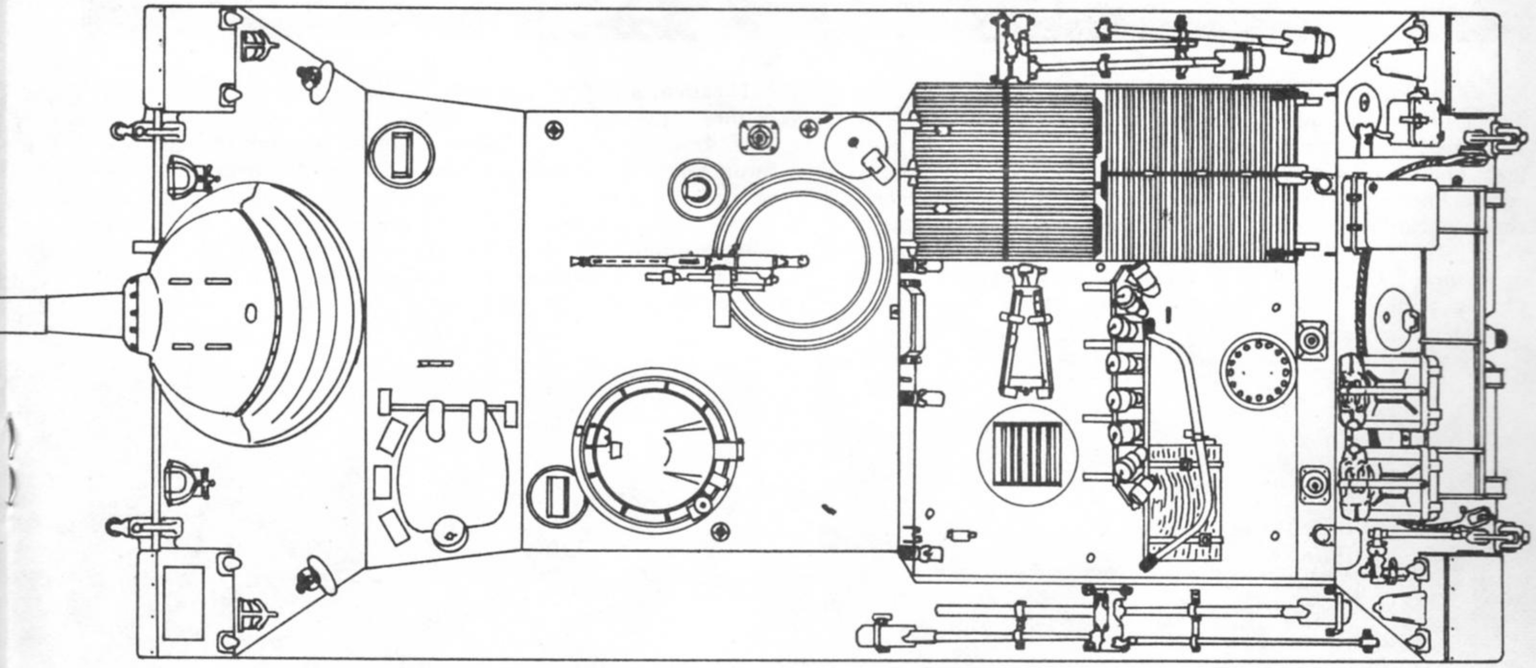
Drawn by James Steu







These drawings are based on small scale illustrations provide to us by the **Bundeswehr**; these drawings were corrected t scale and revised per photographs. Reader corrections an ammendments are requested. It appears that newer versions c the **Kanonenjagdpanzer** are equipped with a visual/infra-re searchlight mounted above the main gun tube. When not i use, this searchlight is stowed in a large, rectangular bo mounted on the right side of the rear storage rack.



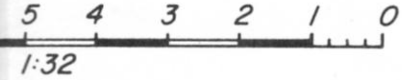
Kanonenjagdpanzer

ard

Scale: 1/32

Magazine Purchasers may have photocopies of these drawings made locally as an aid to their personal or commercial modelmaking, however, Purchasers are not granted the right to distribute copies of these drawings to others, either personally or commercially.

Ratio of the size of this drawings to the original vehicle is 1:32. To obtain 1:35th scale drawings, photo-reduce to 92% of the original size. To obtain 1:48th scale drawings, photo-reduce to 67% of the original size.



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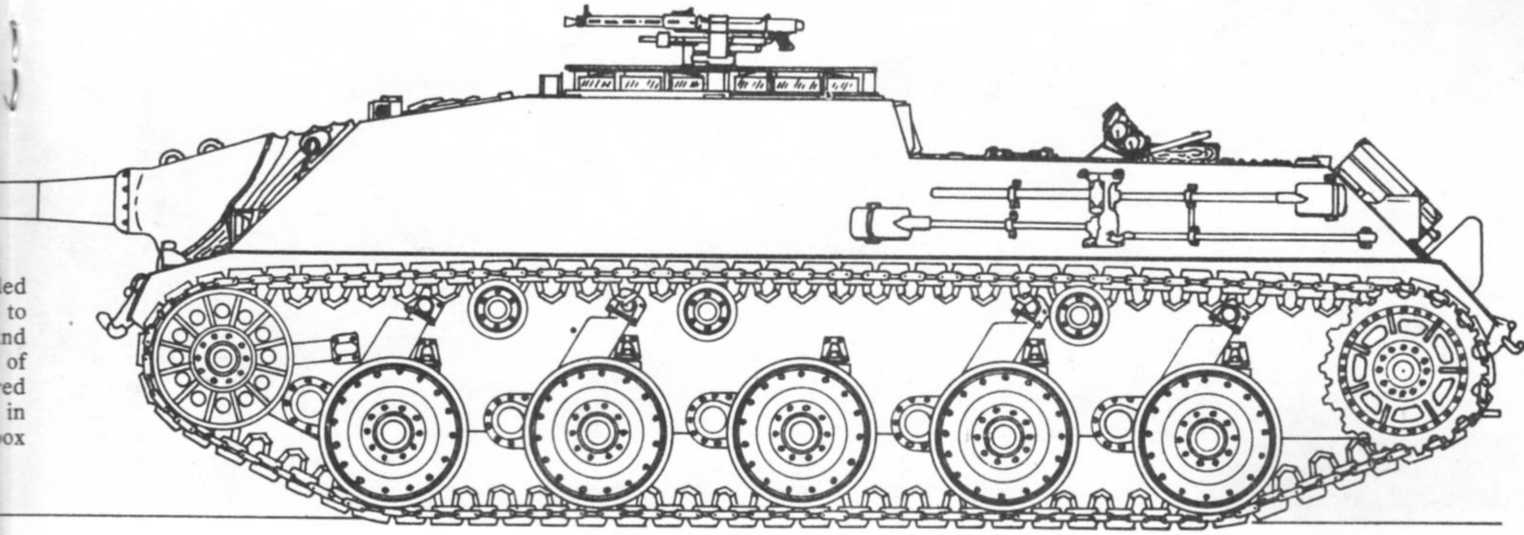
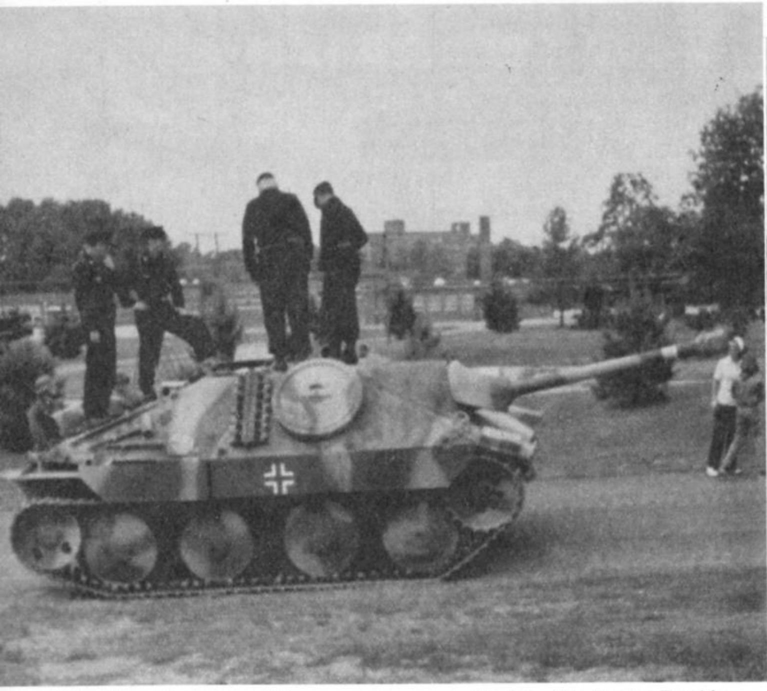
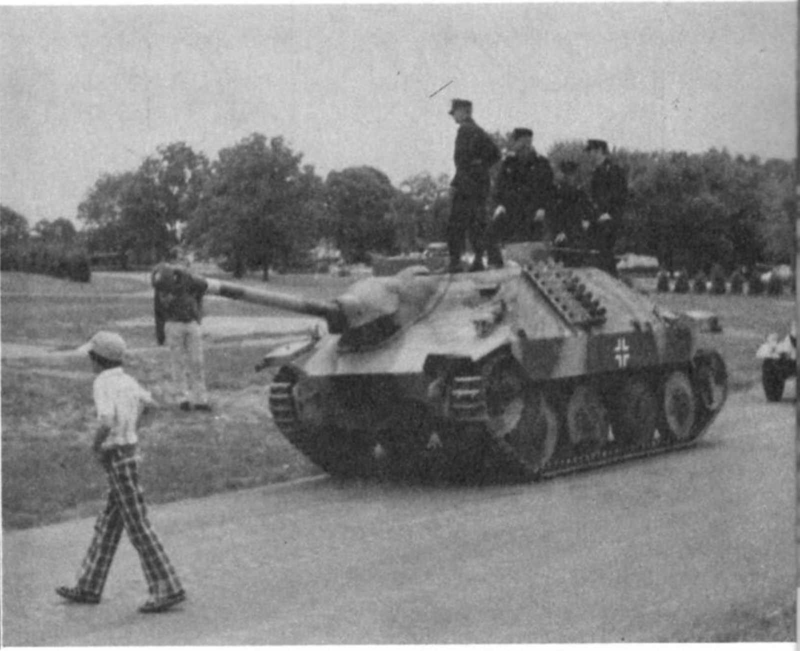


ARMOR IN PICTURES

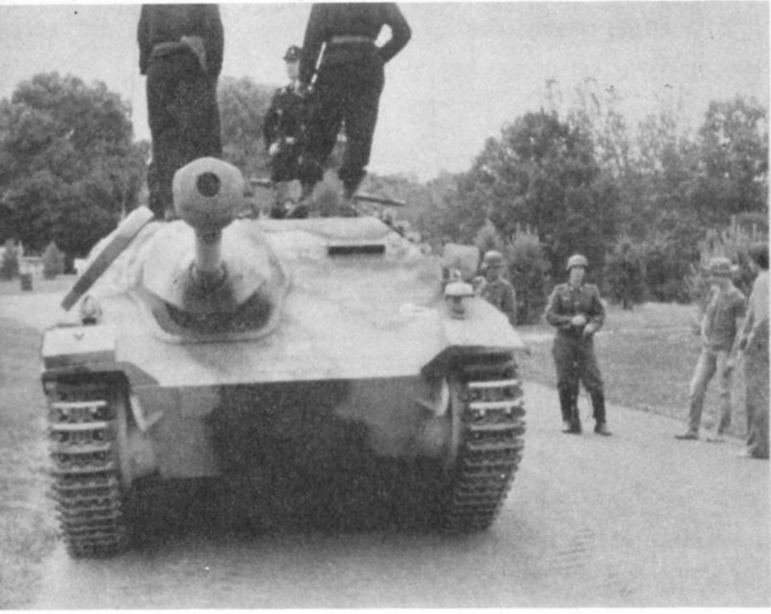
'Armor in Pictures' is a photographic article series to display reader-submitted material on military vehicles and associated models or dioramas. Readers are invited to submit their photographs of vehicles or models for inclusion in this series. Photos should be packed securely, preferably between sheets of cardboard to prevent folding and/or damage, and sent to *AFV-G2*, P. O. Box 820, La Puente, CA 91747, Atten: *'Armor in Pictures'*. Credit will be given in the photo caption for all photos published and all photos will be returned after publication, along with a copy of the magazine in which the pictures appear.

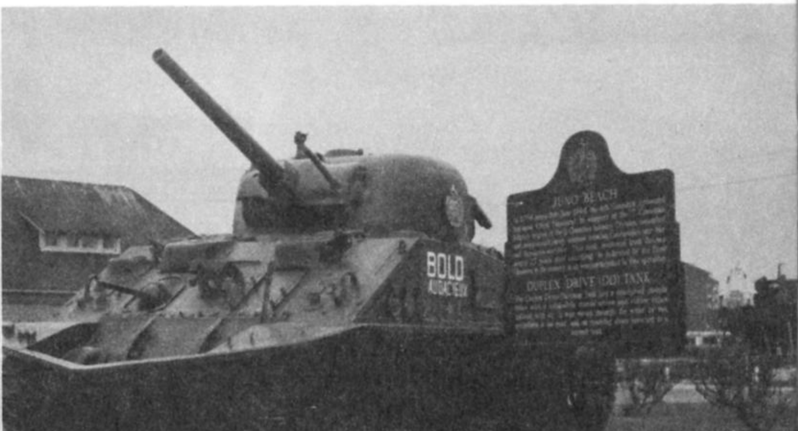
'Armor in Pictures' is also designed to serve readers as a forum for photo requests. If there's a particular photo reference needed, for modeling, for data, for accurate markings, etc., drop *AFV-G2* a note (at the above address) to let the staff know what is required. Our staff will attempt to provide the photos that the readers wish to see, and we'll also provide a list of requested photos that readers are searching for....

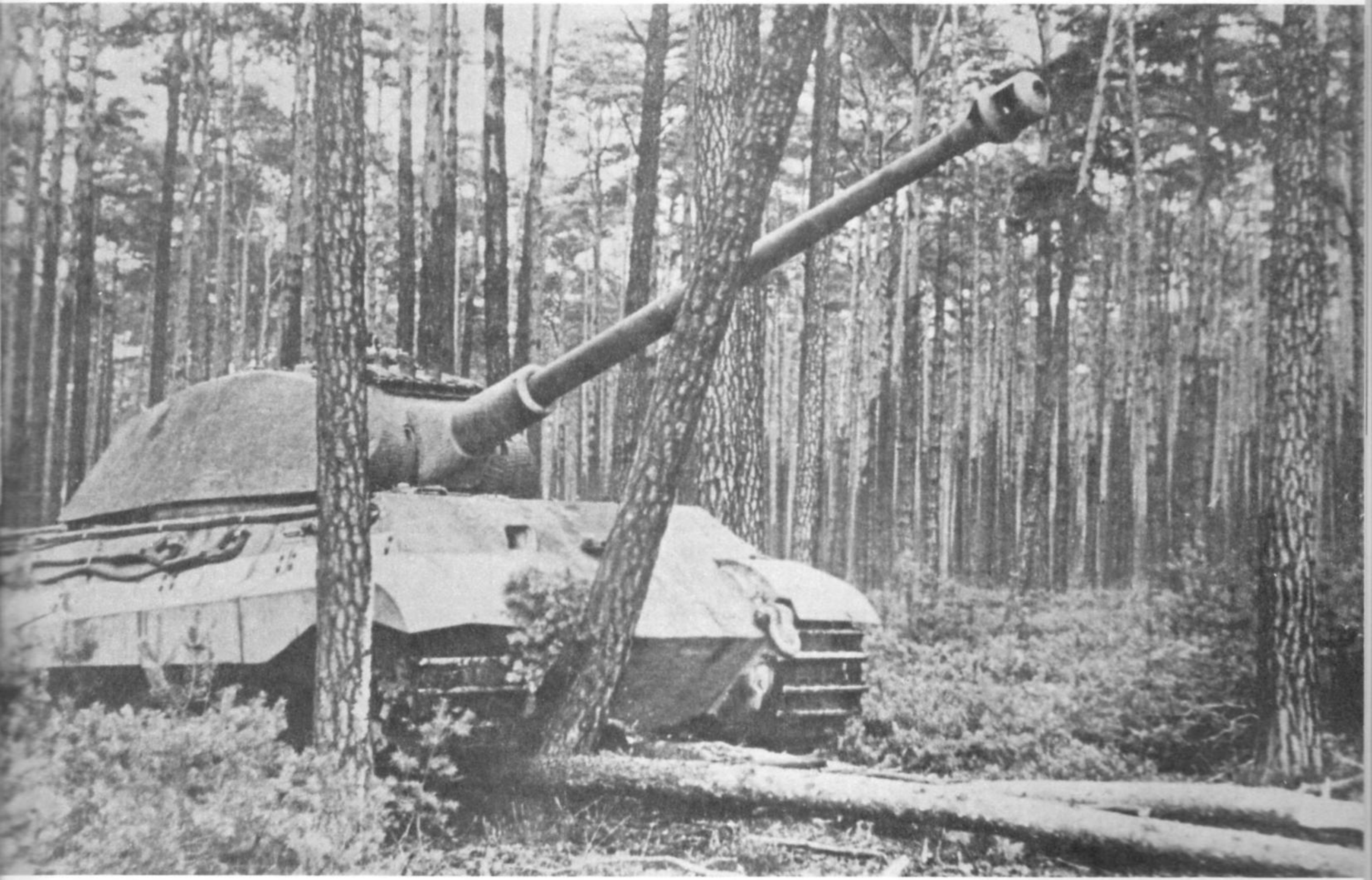




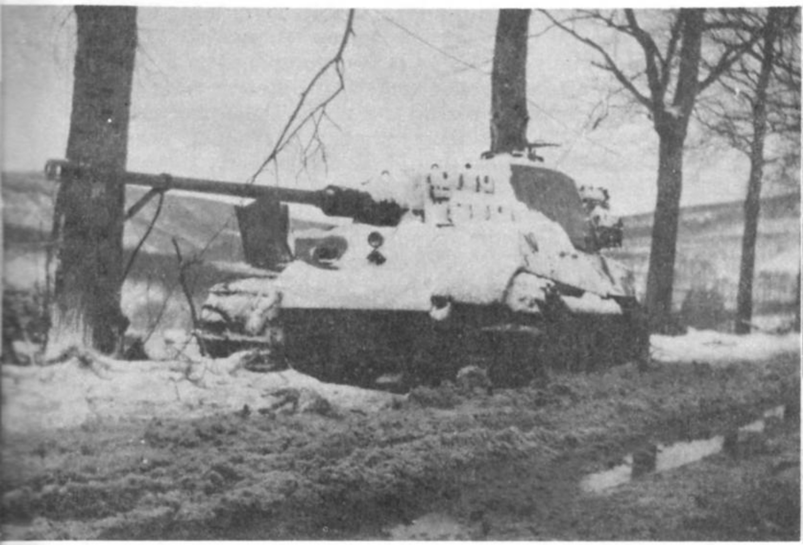
The four photos on this page were provided by Dr. Larry Raskin of Louisville, Kentucky. The pictures above and below, left show the ex-German, ex-Swiss **Jagdpanzer 38[t] 'Hetzer'** tank destroyer of the Patton Museum, Fort Knox, Kentucky. This vehicle is, of course, in running condition and is used as a part of the museum's 'Living Armor' display. Students of German armor will note the vehicle still retains the Swiss muzzle brake, as well as Swiss stowage of tools and spares. The picture, below right, shows one of the last surviving 'DD' Sherman tanks, displayed on Juno Beach where these vehicles were used operationally during the Normandy landings. This vehicle was a casualty of the landings and remained under water for 27 years, being finally recovered in 1971. Note the rail-like frame which mounted the flotation screens. This photo was taken in May of 1976.

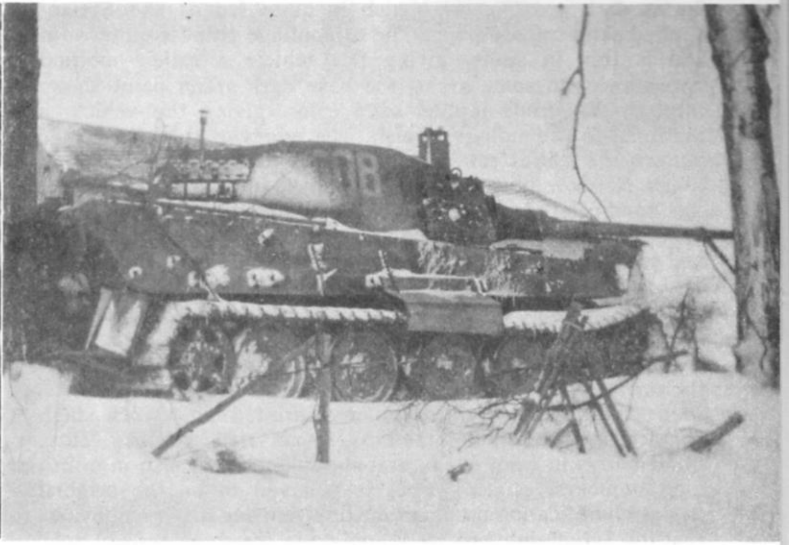






The photo, above, was provided by Kenneth A. Nieman of Brookfield, Wisconsin, and it shows a German *Königstiger* (or Tiger II.) heavy tank of the first production series which featured the original Krupp turret. The original photo is in Mr. Nieman's collection and is captioned as having been taken on Jan. 13, 1945, although the picture was probably taken earlier than this. This photo is part of a series of pictures which depict the great strength and power of this heavy tank, and another picture from this series appeared as the cover illustration for the Scheibert and Wagener book titled 'Die Deutsche Panzertruppe, 1939-45'. Of interest in this picture is the extra track stowage on top of the turret.





The two photos above were provided by Christoper B. Thompsen of El Toro, California, and they show two views of a German *Königstiger* (or Tiger II.) heavy tank abandoned during the Battle of the Bulge (in the winter of 1944-45). Obviously from a veteran's collection, the photos were not marked as to the location of the Tiger tank or the exact date that they were taken. Of special interest are the three-digit numbers '008' on the sides of the turret. Although not in the regular numbering scheme, these numbers probably identify a staff vehicle from the Headquarters of *schwere-SS-Panzer-Abteilung 501.*, the corps-level heavy tank battalion from the *I. SS-Panzer-Korps*. Note that virtually all of the side skirts are missing.

COLOR 'N CAMOUFLAGE

Syrian Armor in the 'Yom Kippur' War

(Continued from Volume 5, Number 9)

by James Steuard

Thanks to a generally favorable response to the preceding article on Syrian armor, markings this article provides additional coverage to Syrian vehicles. Since the appearance of the first article, several conversations with interested armor buffs leads to the conclusion that Syrian vehicles were shipped from the Soviet Union in an overall dark green shade; this shade being the standard Russian armor color. Although most if not all of the T-62 medium tanks were provided in new condition (with zero time on the engines), the T-54 and T-55 medium tanks were mostly from used Soviet stocks. In all likelihood, these used vehicles were those turned-in by Soviet units when they received their newer T-62 tanks. It appears that the Syrian Army further camouflaged the Russian tanks to better conform to Syrian terrain; this camouflage is in a sand-tan color applied in various camouflage patterns, either by brush or with spray equipment. Thus, the paint chip provided in the previous article depicts what is probably Soviet dark green paint, although quite probably in a faded state due to the influence of the hot mid-east sun as well as the passage of time. In some instances, the original Soviet markings faintly show through a thin application of the sand color camouflage paint, providing additional proof of the Soviet origin of the dark green paint finish....

The first vehicle to be covered in this article (and pictured opposite) is a T-62 medium tank which saw combat on the Golan Heights plateau. Following capture by the Israelis, this vehicle had Israeli registration numbers applied to the front and rear of the hull (to mark the vehicle as Israeli property), and the vehicle was then used as a source of spare parts to keep other captured vehicles operational. This particular T-62 carries deep water fording tubes fastened to the rear of the turret, and it also mounts a heavy machine gun mount above the loader's hatch. No external fuel drums are evident on the rear of the tank hull. Filled sand bags are wired to the tops of the rear fender stowage boxes; these sand bags were possibly used as supplemental armor in defensive situations.

The T-62 medium tank is painted in camouflage pattern of Soviet dark green paint (which is quite faded) and Syrian-applied sand-colored paint. The camouflage paint is quite worn and is thin in spots, giving the vehicle a rather mottled appearance. In some areas, the base dark green paint shows through the thinly-applied sand color, giving the vehicle a multi-shade camouflaged finish. The edges of the camouflage pattern are quite 'soft', giving the appearance of a sprayed finish. Note the illustration of the vehicle on the opposite page; the sand-colored paint covers approsimately 60 % of the vehicle, and the sand-colored areas on the turret are fairly large and irregular in shape. The lower hull and suspension of the T-62 are so covered with dust and dirt that any application of camouflage paint is impossible to determine or ascertain.

The only Syrian markings applied to the T-62 medium tank consist of white identification numbers painted on each side of the turret, in a roughly centered position. On the example T-62, these identification numbers are printed in 6-inch high characters. The arabic numbers depict tank number '505'. Immediately in front of the arabic numbers, and also in 6-inch high numbers, appears what is believed to be the original Soviet identification numbers for this vehicle. It seems obvious that the Syrian numbers were applied in the same vertical position on the turret, probably using the height of the original numbers as a guide for the height of the arabic characters. Note that the Syrian numbers were applied to the rear of the original numbering in a manner so as not to cover or obscure them. The original numbers are quite worn and faded, and appear to have been covered at least partially with an overspray of camouflage paint. These numbers are four-digit and appear to be '3140' with the possibility of the first digit being either a '2' or a '3'. The drawings opposite do not show the positioning or configuration of the Israeli registration numbers, but instead show the vehicle in the condition in which it was used by the Syrian Army.

The second vehicle to be covered in this article is a T-55 medium tank which was observed in television films showing the Syrian occupation (or 'peace-keeping') force moving into Beirut, Lebanon at the end of the destructive civil war in that country. Although the television films were in black-and-white (not color), it is evident that the same two-color camouflage scheme was used on this tank, as well as on other pieces of Syrian armored equipment (such as BTR-60PB's, BTR-152's, etc.). On this particular Syrian T-55, the camouflage pattern appears to have been applied with a brush (and by hand) as the edges between adjacent patches of color are quite distinct and 'hard'. Further, the camouflage paints are much more evenly applied, resulting in a definite two-color camouflage scheme (with no tinting of colors). In this vehicle, less than 50% of the tank was covered with the sand-tan colored camouflage scheme. Road dust and dirt so obscured the lower hull and suspension of the tank that it is impossible to determine the camouflage pattern; however, it is estimated that sand-colored patches of camouflage were applied to the road wheels of the tank. On this particular vehicle, no fording equipment was carried; however, a heavy machine gun was mounted over the loader's hatch. No external fuel drums were in evidence on the rear of the hull. Bed rolls and canvas covered packs were strapped to the rear of the tank turret, mounted onto the rear hand rails and/or mounting brackets. These parcels are evidently the personal equipment of the tank crews. Judging by the presence of the personal bed rolls and packs, the Syrian armored unit was not supported by administrative vehicles and it was necessary for the crew to carry their own belongings.

The sole Syrian markings applied to this T-55 medium tank consisted of white turret identification numbers, applied to the sides of the turret in 8-inch high arabic characters. In this particular case, the numbers are somewhat unusual as they consist of four digits, separated in two groupings by a 'slash' mark. The characters are also somewhat different from other examples, being applied in a thinner style. The characters are translated as '3/283' and these numbers may quite possibly identify the assigned higher unit of the Syrian Army to which it belongs. Thus, the initial number '3' may identify the Division or Brigade to which the vehicle is assigned, while the remainder of the identification number may designate the Battalion and Company to which the tank is assigned. It should be stated, however, that the above assesment is speculation and is not backed by documentation....

In comparison to the color and camouflage schemes used by other mid-eastern nations, especially those countries involved with the 'Yom Kippur' War, Syrian vehicles are quite colorful. While a good deal of research into Syrian vehicle color schemes still remains to be done, it is hoped that these two articles on Syrian armored vehicle markings will provide assistance to armor historians and modelers.

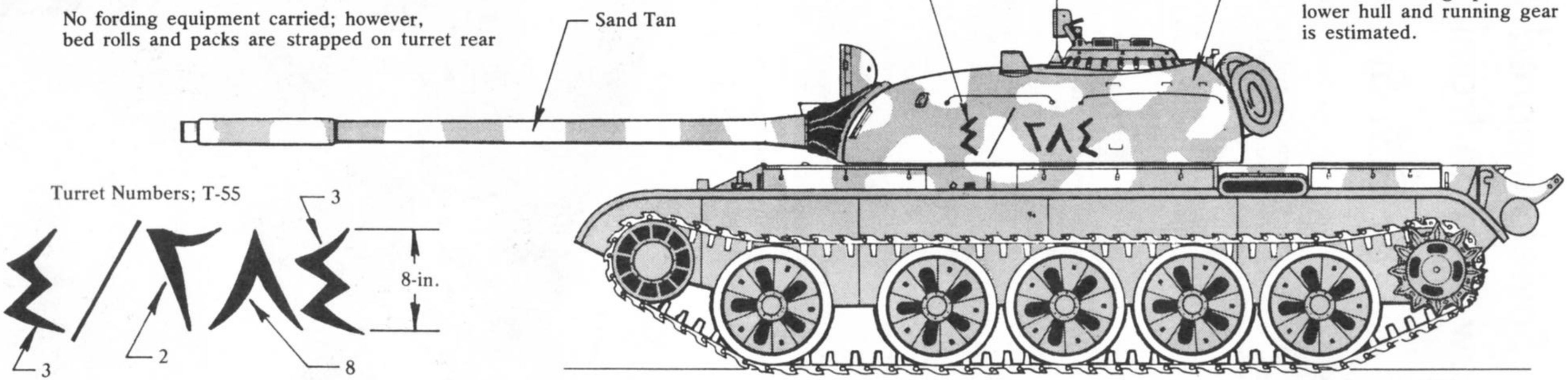
SYRIAN SAND CAMOUFLAGE

7 pts Floquil M76 Khaki
1 pt Floquil M75 Buff

SYRIAN TANKS IN THE YOM KIPPUR WAR *

Drawings not to any particular scale.

No fording equipment carried; however, bed rolls and packs are strapped on turret rear

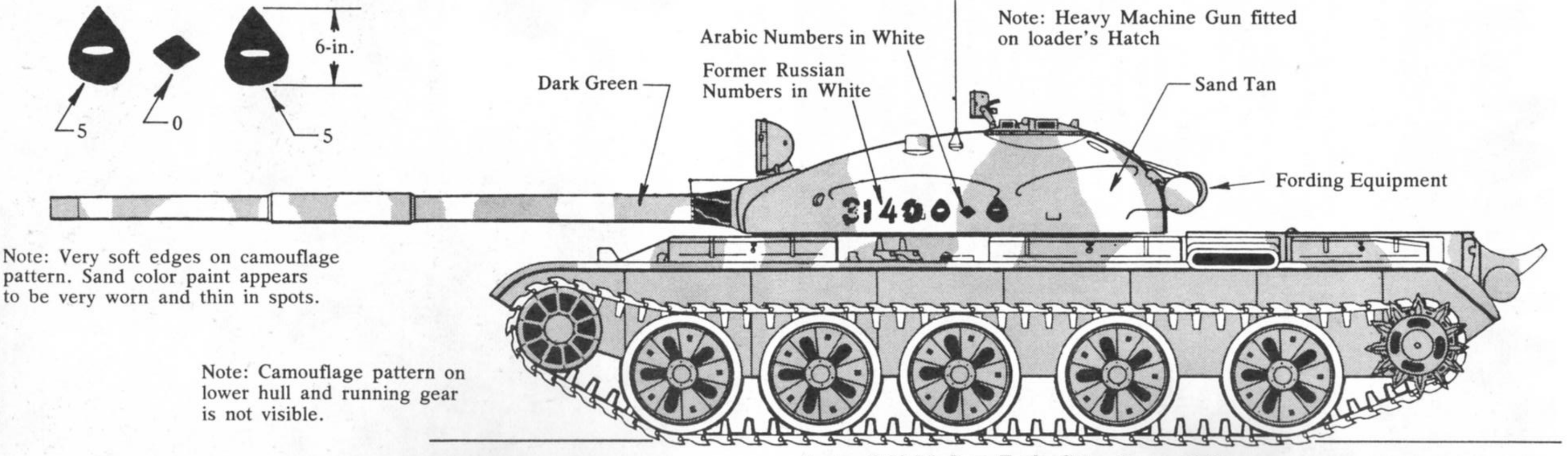


Note: Heavy Machine Gun fitted on Loader's Hatch

Note: Camouflage pattern on lower hull and running gear is estimated.

Syrian T-55 Medium Tank, entering Lebanon, 1976

Note: Dark Green color appears to be the original Soviet color.



Note: Heavy Machine Gun fitted on loader's Hatch

Note: Very soft edges on camouflage pattern. Sand color paint appears to be very worn and thin in spots.

Note: Camouflage pattern on lower hull and running gear is not visible.

Syrian T-62 Medium Tank, Golan Front, 1973

Note: Sand bags are wired to fender tops and to top of exhaust.

* and Later...

Drawings adapted from those drawn by Enrico Po

REALISM . . . 3 Soviet Armored Vehicles now used in training GI's

by Dan Synovec

VILSECK, Germany — the only thing missing is Ivan.

U.S. soldiers in Europe can now 'see, touch or feel at first hand' actual Soviet armored vehicles.

USAREUR has received three Soviet armored vehicles from the Department of the Army for training activities at the Seventh Army Training Center here and at Grafenwohr, a USAREUR spokesman said Friday.

The three vehicles are a T-62 medium tank, a BMP armored infantry combat vehicle and a BTR-152 armored personnel carrier, the spokesman said.

'The vehicles will be used to train U.S. Army personnel in recognition and tracking of Warsaw Pact armored equipment,' the spokesman said.

'This training will ensure a fuller appreciation of equipment capability and weakness and thereby improve our own effectiveness. The vehicles are intended for active use and not merely for static displays,' the spokesman added.

SP4 Earl H. Raglin, 21, a member of HQ, Seventh Army Combined Arms Training Center, has been assigned to drive and maintain the squat T-62 medium tank.

'It runs pretty good,' said Raglin. 'It's fast and it's easy to drive. The T-62 is smaller than our M60 tank and it has less room for the crew.'

Authorities said that Soviet tank crewmen aren't more than 5-feet 6-inches tall. The M60 tank of the U.S. Army is nearly three feet taller than the T-62, giving would-be enemy gunners a bigger target to shoot at.

CPL Raul Aguero, 19, of the same unit, is assigned to drive and maintain the BMP. He said the vehicle is built with no room for human comfort. But he added that the BMP 'is simple to maintain.'

A Seventh Army Combined Training Center intelligence officer said Friday that all American combat units which train at the Seventh Army training area will be able to use the three Soviet-built vehicles. He said that emphasis will be given to the training of tank commanders and tank and antitank gunners, artillery forward observers, members of reconnaissance units and ground surveillance radar operators.

The officer, 1st Lt. Craig L. Taylor, said that selected USAREUR soldiers were trained in the maintenance of the Soviet-built vehicles by a special team from the U.S.

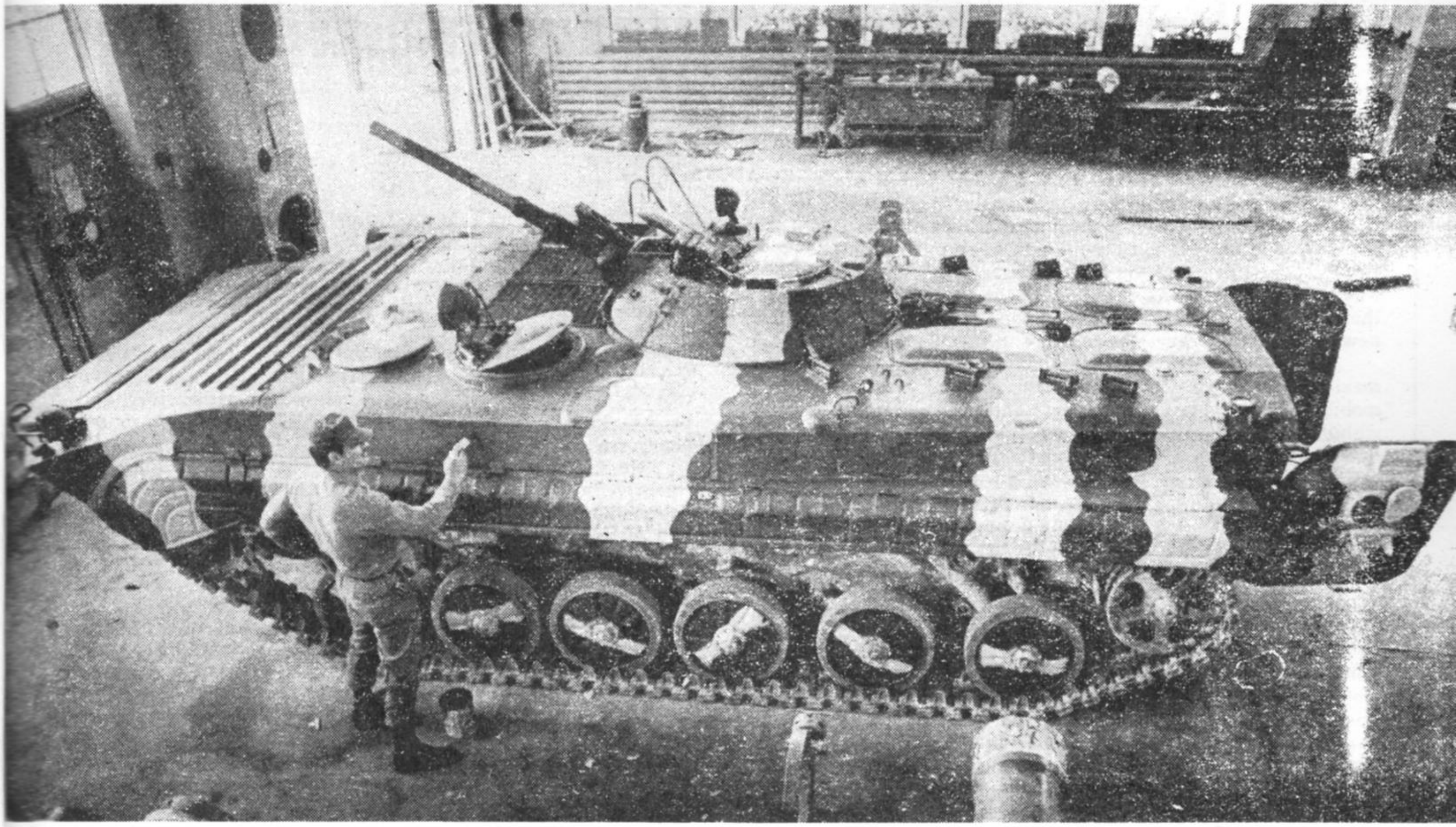
'We are not prepared to say where the vehicles came from,' Taylor said. 'We do not have them on hand receipt from the Soviet Union.'

A USAREUR spokesman said that instructional material for maintenance will be developed, and repair parts which cannot be fabricated locally will be requested from the U.S.

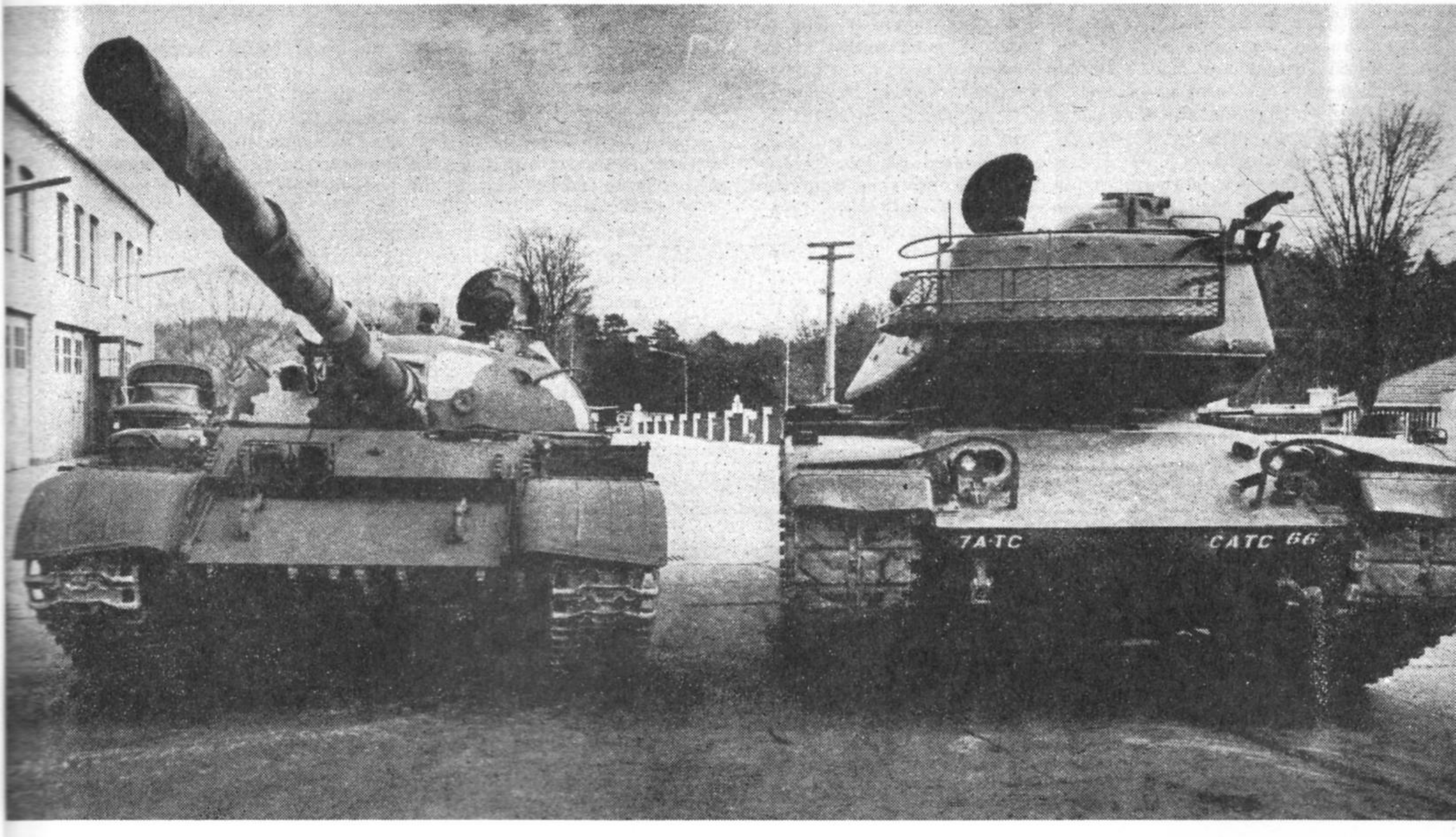
The spokesman said that U.S. Army authorities here will consider any request from NATO Allies who may also desire to use the vehicles for training. He added that Federal Republic of Germany authorities have been informed of the presence of the

Text Continued on Page 44

Photo, Below: 'It runs pretty good.' SP4 Earl Raglin rubs elbows with the T62 — the Soviet's medium tank — at the Seventh Army Combined Arms Training Center in Vilseck, Germany. Raglin drives and maintains the tank. Photo Credit: Stars & Stripes.



Soviet Rolling Hardware on Display — The Russian BMP (above), an armored infantry combat vehicle, gets a once-over from CPL Raul Aguero. In photo below, the squat Russian T62 (left) is compared with the US Army's M60. The M60 is nearly three feet higher, which presents a larger target. Photo Credit: Stars & Stripes.



U.S. Army Tank Destroyer Organizations in World War 2.

Part I. Battalion and Group

by William E. Platz

Four days before Pearl Harbor, the United States announced the formal organization of a new arm of service — the Tank Destroyer Command. This was the first fruit of a seed planted back in 1940 by Lt. Gen. Leslie McNair, the Chief of Army Ground Forces, and carefully nurtured by Col. (later Maj. Gen.) Andrew Bruce in the intervening months. Their purpose was to provide a means of defeating the mass tank attacks of the recent Polish and French campaigns, and in this regard the new arm was to prove most successful.

The concept behind the new command was simple: maximum concentration of firepower, coupled with maximum mobility. To achieve this, the anti-tank weapons were withdrawn from artillery and armored units, and placed in special independent formations particularly trained to attack and destroy hostile tanks. These units would be provided with self-propelled anit-tank guns 'of 75mm or larger', and were organized as fully mechanized units capable of independent action.

The Tank Destroyer Group
1941 through 1945

The basic tactical unit of the new Tank Destroyer Command was the Tank Destroyer Battalion; however, two or more of these battalions would be under the control of a Tank Destroyer Group which in turn would be assigned at Corps level. Originally, the concept was that this group headquarters would tactically control the various battalions, concentrating them as necessary to meet the enemy's armored thrust. To fulfill this mission, the group commander, a full colonel was provided a Headquarters and Headquarters Company of 16 officers and 115 enlisted men (US Army Table of Organization and Equipment 18-10-1 dated 5 Jan. 42).

Further experimentation, however, revealed that this structure was too cumbersome for effective control of the battalions. Likewise tank tactics themselves were changing and the great, mass-assaults of the 1940 campaigns were no longer in vogue. As a result, the T.D. group became more of an administrative unit than a combat formation; and the various field divisions were given more direct control over the Tank Destroyer Battalions now attached to them. The strength of the group headquarters was drastically cut to a total of 8 officers and 40 enlisted men (T.O. & E. 18-10-1 dated 20 Dec. 1942).

But the knife had pared too deeply, and additional changes were made in May 1943, December 1943, and October 1944 which increased the establishment to 17 officers and 63 enlisted men. (T.O. & E. 18-10-1 dated 31 Oct. 1944). These later changes were relatively minor and consisted mainly of additional staff officers, orderlies, and drivers.

As the December 1943 Tank Destroyer Group organization was the one in use during the North African and early Italian campaigns it deserves a closer look. Functionally the group was divided into two elements: the command echelon and the service echelon. The former was composed of the Group Commander's party with two M-3A1 Scout cars and a single motorcycle messenger, and a Command Post party with one M3A1, three Dodge ¾-ton command cars, a ¾-ton Weapons Carrier, a jeep and two motorcycles. The Scout cars were later replaced by M-2 halftracks and additional jeeps were added. The service echelon was provided with two ¾-ton weapons carriers and a 2½-ton truck towing a 1-ton trailer.

Officer assignments originally were as follows: one Colonel — Commander; one Lt. Col. — Executive Officer & S-3; two Majors — S-2, and S-1/S-4; three Captains and one Lieutenant. To these were added two Majors (S-3 and S-1) and seven S-4 Captains and Lieutenants — the latter as assistants to the four staff departments, a communications officer, a transport officer, and a liason officer.

By 1945, Tank Destroyer Groups provided smooth administration for the battalions under their command, while also giving the Corps commanders a staff well trained in the field of anti-tank defense.

The Tank Destroyer Battalion
1941 through 1945

While the Tank Destroyer Group provided administrative services, it was the individual Tank Destroyer Battalions that were to provide the punch. In the beginning, there were several different types of Tank Destroyer Battalions — heavy and light; self-propelled and towed. This arrangement, although necessitated by shortages of equipment, was far from satisfactory, and by late 1942 it was decided to convert all battalions to the heavy, self-propelled type.

The original organization for the Tank Destroyer Battalion (Heavy) (Self-propelled) (GHQ) was set forth in U.S. Army Table of Organization and Equipment 18-25 dated 15 Dec. 1941. This provided for a total complement of 35 officers and 807 enlisted personnel divided among the Gun Companies, a Reconnaissance Company and a Headquarters Company. Equipment, when it was available, consisted of 24 M-3 Gun Motor Carriages (G.M.C.'s) (75mm M1897 gun mounted on the M3 half-track), 12 M-6 Gun Motor Carriages (37mm Gun on ¾-ton truck) 18 M-15 Gun Motor Carriages (37mm AA gun with two .50 cal M.G. mounted on half track) plus a variety of other trucks, motorcycles and scout cars...in all some 175 vehicles.

The battalion was virtually self-sufficient, with the capabilities of all arms. In addition to its principal role as an anti-tank unit, the formation could also be called upon to fire, either direct or indirect, as conventional artillery. Its tank destroyers could also be employed as assault guns for an armored attack. The men of the Reconnaissance Company were frequently called upon to dismout and fight as infantry, while the Pioneer Platoon did all those things engineers normally do. Each Tank Destroyer Battalion also had its own section of AA artillery as well.

By January 1943, however, the need for this independence had passed. Tank destroyers would henceforth normally be attached to units of other arms in combat. Thus it was possible to streamline the battalion organization considerable. The authorized strength of the unit was cut to 36 officers, 1 warrant officer and 636 enlisted men. Each of the companies were reduced in size, but the total number of vehicles was set at 177.

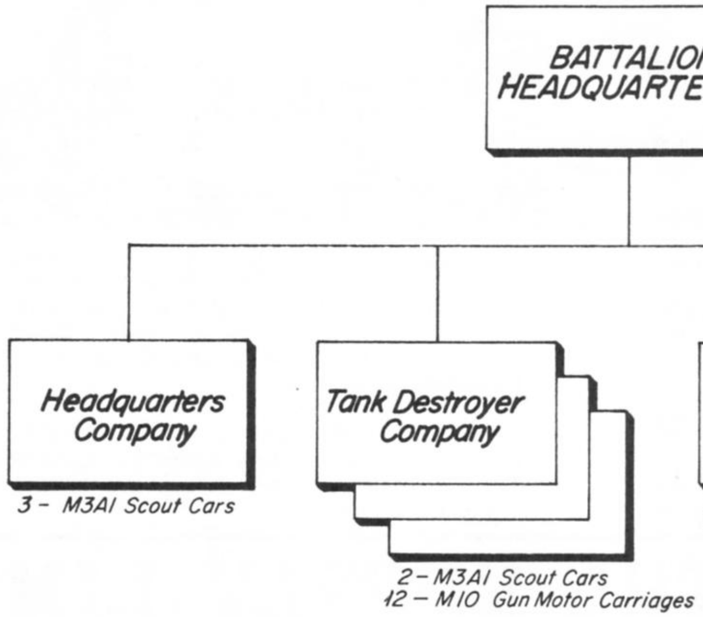
The most significant change was that the battalion would now be armed with a single type of tank destroyer — either the obsolescent M.3 G.M.C. 75mm or the new M-10, which was fully tracked with a 3-in. AA Gun modified to fit in a 360 degree, open-top, traversing turret. There were no more 'light platoons' and the 'AA Sections' were also dispensed with. The 37mm M-6 Gun Motor Carriages thus freed were turned over to the Reconnaissance Company who used them, pending arrival of the new M-8 armored cars.

Indeed, equipment shuffling was commonplace during this period as obsolete vehicles and weapons were replaced by new designs. Some of the more significant changes, implemented as the material became available, were:

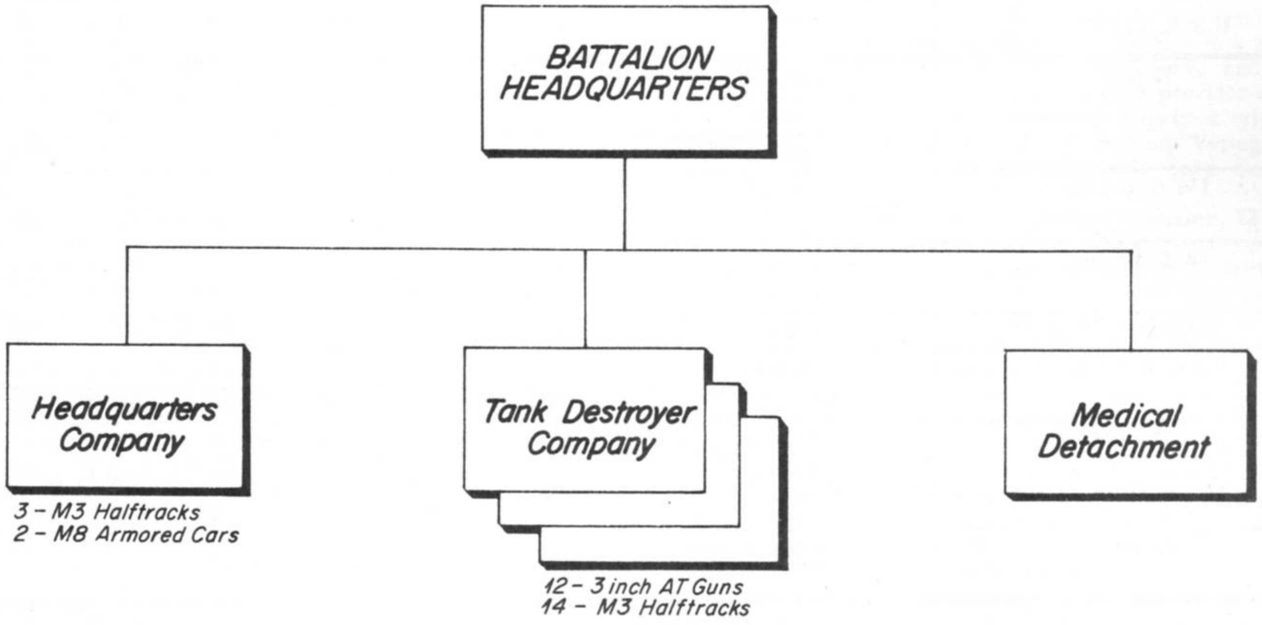
M-10 or M-10A1	Replaced	M-3 and M-6 G.M.C.
M-6 G.M.C.	Replaced	M-3A1 Scout Car
M-8 Armored Car	Replaced	M-6 GMC (Recon)
M-2 Half Track A.P.C.	Replaced	M-3A1 Scout Car
M-20 Armored Utility Car	Replaced	1½ truck & M-3A1 SC
¼-ton jeep	Replaced	Motorcycle w/side car
.45 sub machine gun	Replaced	.30 cal carbine in T.D.
2½-ton trucks	Replaced	1½ ton trucks

With so many changes going on, units were frequently found with a combination of old and new equipment on hand. However, the basic organizational structure of the battalion

TANK DESTROYER BATTALION (SELF-PROPELLED) — JANUARY 1943



TANK DESTROYER BATTALION (TOWED) — 1944



Note: Headquarters Company includes organic Recon. Platoon.

remained the same. This, based on T.O. & E 18-25 dated 27 Jan. 1943. is given in Table I. This basic structure remained in effect, with only minor modification, until the end of the war.

Other changes were in the wind, however, during 1943. Tank Destroyer units had encountered the enemy in Tunisia (Nov. 1942 through May 1943) and had learned some hard lessons. The high profile and flimsy protection of the M-3 G.M.C.'s had revived an interest in towed anti-tank guns. This was further enhanced by the new tactical doctrine which emphasized concealment and the ambush. As a result it was decided to convert half of the present Tank Destroyer Battalions into towed units. This required a considerable change in organization and equipment. The 3-inch gun M-5 was mounted on the M-6 carriage, and the M-3 halftrack was provided as a towing vehicle. This combination required a detachment of 10 men, instead of the 5-man crew of the M-10s. This increase in personnel was partially off-set by disbanding the Reconnaissance Company. The result was a battalion structured as shown in Table II.

Towed Tank Destroyer Battalions saw combat in France in 1944, but proved less effective than the self-propelled units. The dismounted guns lacked the necessary mobility, and were frequently overrun, causing a higher casualty rate. As the war drew to a close, towed units were gradually phased out, being either disbanded or converted back to self-propelled equipment.

The last major change in battalion organization was set forth in T.O. & E 18-25 dated 15 March 1944. This was implemented in November 1944, and called for a 6th officer to be assigned to each T.D. company. The authorized strength of the battalion was now 787 officers and men; but there was little other significant change.

The second World War ended with the U.S. Tank Destroyer Battalion a powerfully armed, highly mobile formation capable of semi-independent action in a wide variety of roles.

Sources:

TDS, Tactics Dept. Functional Organization Charts Tank Destroyer Bn., (Tank Destroyer School; Camp Hood, Texas; 1943)

Wolfe, Capt. Albert W., 5th Tank Destroyer Group History, (Privately published, Salzburg, Austria, 1945)

Gill, Lonnie L. 'Seek, Strike, and Destroy', Parts I through IV., 'AFV-G2' magazine (Vol. II No 9 & 11; Vol. III no.'s 1&3; December 1970 through November 1971)

Relevent U.S. Army Tables of Organization and Equipment (as quoted in text)

Interview with Col. Frank G. Spiess, C.O. 773rd Tank Destroyer Bn., Mr. Charlie Keller, President of the 773rd Tank Destroyer Bn. Association, and various members of the association.

WHEELS IN THE SUPPLY LINE

by Robert A. Schaff

One of the numerous problems faced by modelers in converting vehicle kits or in scratchbuilding wheeled vehicles involves tires and tire sizes. Without some kind of guide, it is virtually impossible to verify if a tire from the spare parts box is in scale with a model under construction. Even recognizing and understanding the international tire size codes does not help, as mathematics are then involved in determining the size of a miniature tire in the appropriate scale. The table below is provided as a guide for modelers in determining the correct size of tire for their model vehicles. In the table, all sizes are given in inches, and modelers are referred to a decimal equivalent chart to convert the table's decimal measurements into fractions commonly appearing on scale rulers.

INTERNATIONAL STANDARD TRUCK TIRE SIZES AND SCALE EQUIVALENTS								
U.S.A. TRUCKS	TIRE	DIAMETER	SCALE: 1/87	1/76	1/72	1/48	1/35	1/32
¾ ton	9.00x16	31.5	.362	.414	.437	.656	.900	.984
	6.50x20	34.5	.396	.454	.479	.718	.986	1.078
	7.00x20	35.5	.408	.467	.493	.740	1,014	1.109
1½ & 2½ ton	7.50x20	37	.425	.487	.514	.770	1.057	1.156
	8.25x20	38	.437	.500	.528	.792	1.085	1.187
4 & 4-5 ton	9.00x20	40	.460	.526	.555	.833	1.142	1.250
	10.00x20	42	.483	.553	.583	.875	1.200	1.312
M1A1 Hvy Wrkr	11.00x20	43	.494	.566	.597	.896	1.228	1.343
5-6t & 12 ton	12.00x20	44	.500	.579	.611	.916	1.257	1.375
	13.00x20	46	.528	.605	.638	.958	1.314	1.437
7½ ton	12.00x24	48	.551	.632	.667	1.000	1.370	1.500
	14.00x20	49	.563	.645	.680	1.020	1.400	1.531
	15.00x20	51	.586	.671	.708	1.062	1.457	1.594
45 ton	14.00x24	53	.609	.697	.736	1.104	1.514	1.656

The two numbers in the standard method of specifying tire sizes are the nominal width and the diameter of the wheel rim. Actual width is usually larger by one-half inch to one inch. Thus, the 9.00x16 tire is nominally 9" wide (actually 10") and on a 16" diameter wheel. For general modeling purposes, if you know what size tires a vehicle should have you can calculate its scale size by adding twice the nominal width to the wheel size, plus two inches, divided by your scale. For example, for a 7.50x20 tire in 1/87 scale, calculate the diameter: 2 x 7.5 + 20 + 2 = 37; then divide by 87: 37/87 = .425.

THE BARON'S BOOKSHELF

With books for *your* bookshelf

Book Review: *Kraftfahrzeuge und Panzer des Oesterreiche Heeres, 1896 bis Heute,* by Walter J. Spielberger (Motorbuch Verlag, Stuttgart, W. Germany)

Reviewed by Robert J. Icks

The continuing interest in German vehicles of World War II would lead one to believe that German vehicle enthusiasts would make an earnest effort to acquire a working knowledge of the language. This does not seem to be the case so a great deal of interesting information is denied to many who would benefit. But, fortunately, there are a few German books that are so well illustrated and with data so clearly set out that a detailed knowledge of the language is not necessary.

Among these is the series of books by Walter J. Spielberger published by Motorbuch Verlag in Stuttgart during the past year and a half. These were the *Leopard, Pz Kpfw I* and *II, Pz Kpfw III,* Armored Cars, *Pz Kpfw IV,* Halftracks, the *Tiger,* and special Armored Vehicles, eight volumes in all. Mr. Spielbeger was a protege of the famours Dr. Porshe, served as a tank commander on the Eastern and Western fronts in World War II, was wounded and captured and after the war, became Volkswagen West Coast Engineer in the United States until his retirement and return to Europe some two years ago.

His thorough scholarship has again shown itself in a surprise volume, not a part of the above series but one nevertheless that rounds out German World War II. vehicle history. This is *'Kraftfahrzeuge und Panzer des Oesterreichische Heeres 1896 bis Heute'* (Austrian Army Transport and Armored Vehicles from 1896 to Today.) The format is slightly smaller than the volumes of the series but not enough so that it cannot fit nicely with them. The Austrian volume contains some 500 pages with 750 superb illustrations on excellent quality paper.

Included are many previously little-known vehicles, both softskin and armored. Among the interesting wheeled and halftrack vehicles are those involved with the famed 42cm Skoda howitzer of World War I, known in this country as Big Bertha, Variations on the *RSO* or *Raupenschlepper Ost* are among those in the latter group, together with all the types of armored vehicles, wheeled and tracked, used before, during and after World War II and including German vehicles of World War II that were manufactured in Austria.

No library on German vehicles will be complete without this volume. I recommend it highly.

Book Review: *The Business of Tanks,* by G. MacLeod Ross (Arthur H. Stockwell Ltd., Devon, England)

Reviewed by Robert J. Icks

'The Business of Tanks' by G. MacLeod Ross, a retired British Army Brigadier of Royal Engineers, is a new book published in England by Arthur H. Stockwell Ltd. of Elm Court, Ilfracombe, Devon. It deals with the author's personal experiences during the period 1933 to 1945. He was Assistant Director of Tank Design at Woolwich Arsenal from 1933 to 1936, followed by a year as Deputy Director. After two years in reconstruction of Quetta Cantonment in India he spent a year as Chairman of the Tank Development Board of India. He then was ordered to the United States where he was Chief Technical Liaison Officer to U.S. Army Ordnance in Detroit until the end of World War II.

The book seeks to answer the questions as to why England lacked battle-worthy tanks when World War II broke out and why the British were forced to rely almost entirely during that war on the U.S.-built Sherman. It is based on the author's personal diary and is bluntly frank in evaluating the individuals in both England and the United States involved in tank design and production. In effect, the book is a history of tank guns and gunnery and the failure on both sides of the Atlantic to provide firepower at least equal to that of the Germans.

You will find included the names and activities of those involved with tank and tank gun design, procurement and use. It is an important book filled with lessons. One hopes they will be taken to heart. The book is fascinating history told by one who played an important part in it.

Brigadier Ross now lives in Canada. Although retired he retains a very keen interest in 'The Business of Tanks.'

Book Review: *German Railroad Guns in Action,* by Joachim Engelmann (Squadron/Signal Publications, E. Warren, Michigan, $3.95)

Reviewed by James Steuard

The newest volume in Squadron/Signal's growing 'Armor Series' is numbered '15', and is devoted to the fascinating subject of German Railroad Artillery. Indeed, this is a subject area which has had little coverage until now, and Herr Engelmann is to be congratulated as his book provides a good deal of previously unavailable information. This book originally appeared in German, published by Podzun Verlag, and Squadron/Signal's efforts in providing this book must be applauded.

'German Railroad Guns in Action' contains 73 clear photographs, 12 line drawings (which mostly show side-views of various weapons), and 4 full-colored renderings by artist Don Greer, who also painted the cover artwork. The book contains two pages of background text on German railway artillery, covering history and development of this branch of the service. Each photograph is accompanied by lengthy captions which comment on the weapon shown in the picture and provide additional information on ammunition and details. The book contains some order-of-battle information, as well as sections covering the 17cm, 20.3cm, 21cm, 24cm, 28cm and 80cm guns, as well as a brief section on captured equipment used by the Germans. A number of the pictures are quire unusual, showing details of gun construction and auxiliary equipment, and this information will be welcomed by modelers and historians.

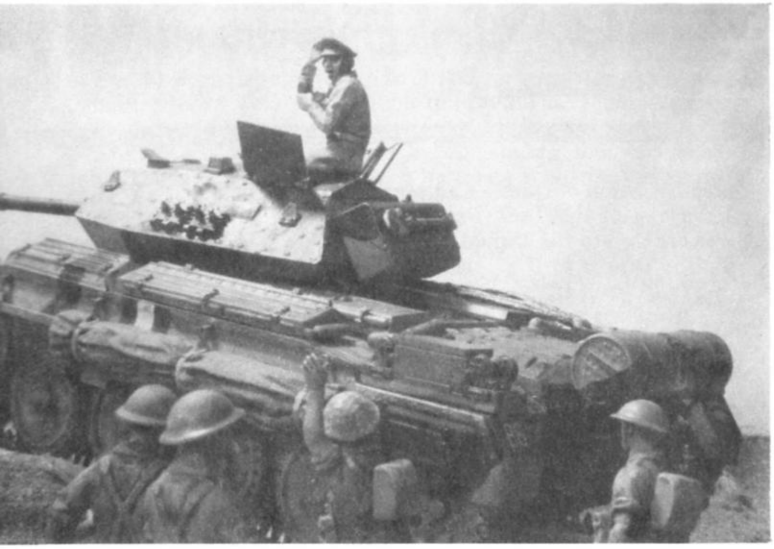
As the German railway artillery branch used quite a number of different weapons in different calibers, it might be expected that the subject of equipment would be quite difficult to cover in a total of 50 pages, and this forms the greatest complaint that I have about this new book. There just isn't enough space in a 50-page book to provide more than a

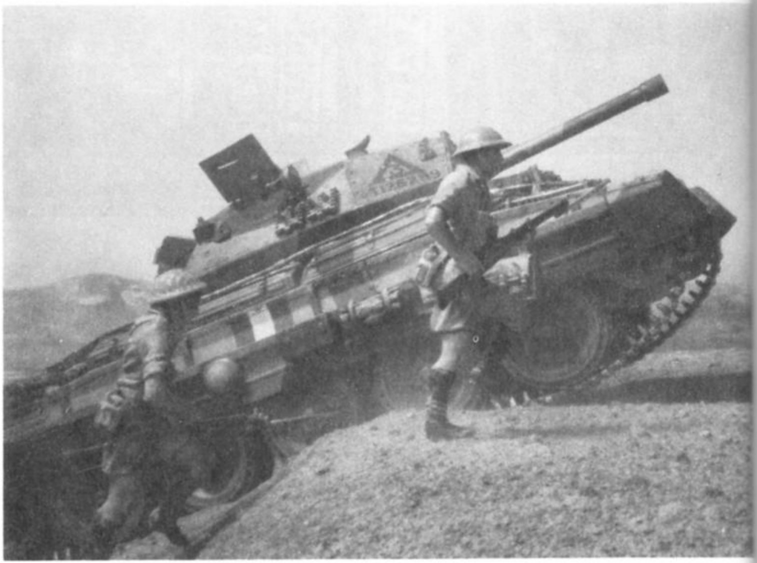
Continued on Page 45

MODELER'S SHOWCASE

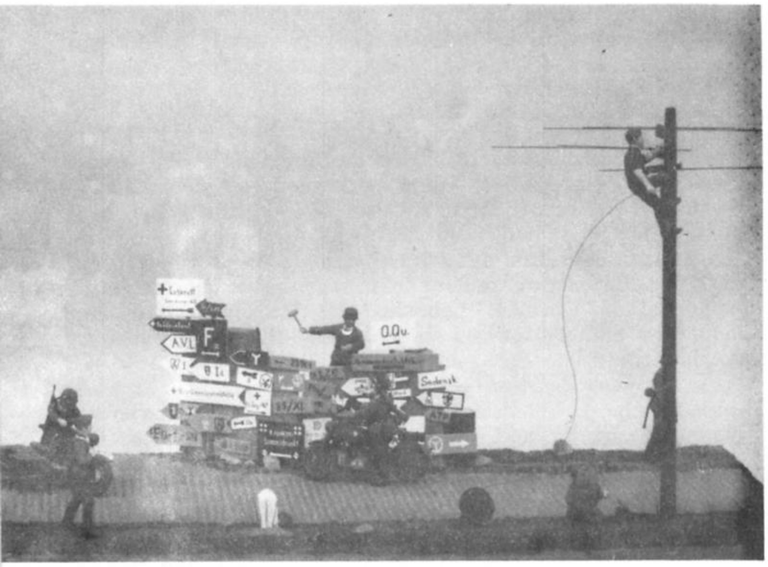
The 'Modeler's Showcase' is an occassional article series which is designed to provide ideas and modeling tips for modelers, through viewing of other modeler's work. The photographs on this page have been selected to show the techniques and effects created by diorama modelers.

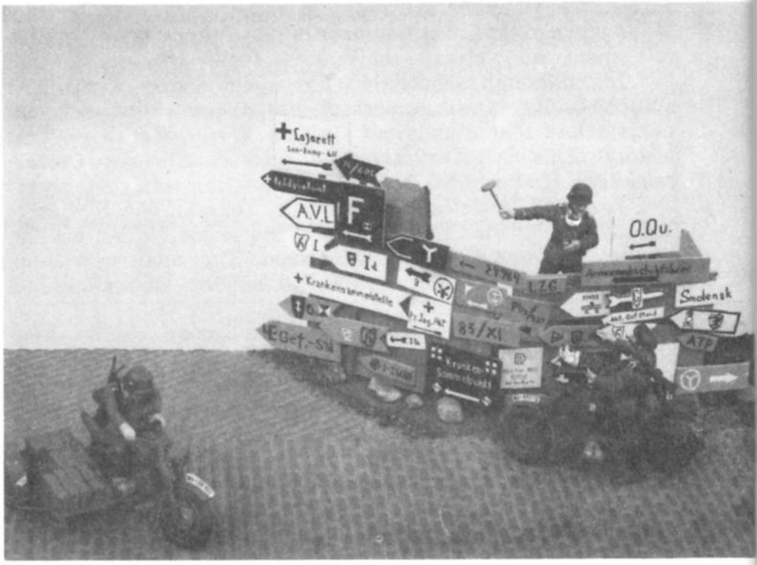
Readers are urged to submit diorama tips, ideas and suggestions for inclusion in this series.





The upper two photographs show a North African diorama, constructed and photographed by Dr. Koyu-Go of Tokyo, Japan. The Crusader III. Cruiser Tank is the 1:32nd scale model produced by Airfix, while the British Eighth Army figures by the same company are posed to good effect. A point to notice in Dr. Koyu-Go's diorama is that 'shine' is not necessarily a bad thing; note the realistic sub glare off the helmets and tank armor plate. Posed photography such as this is not difficult, but obtaining realism in such photography is a real challange!



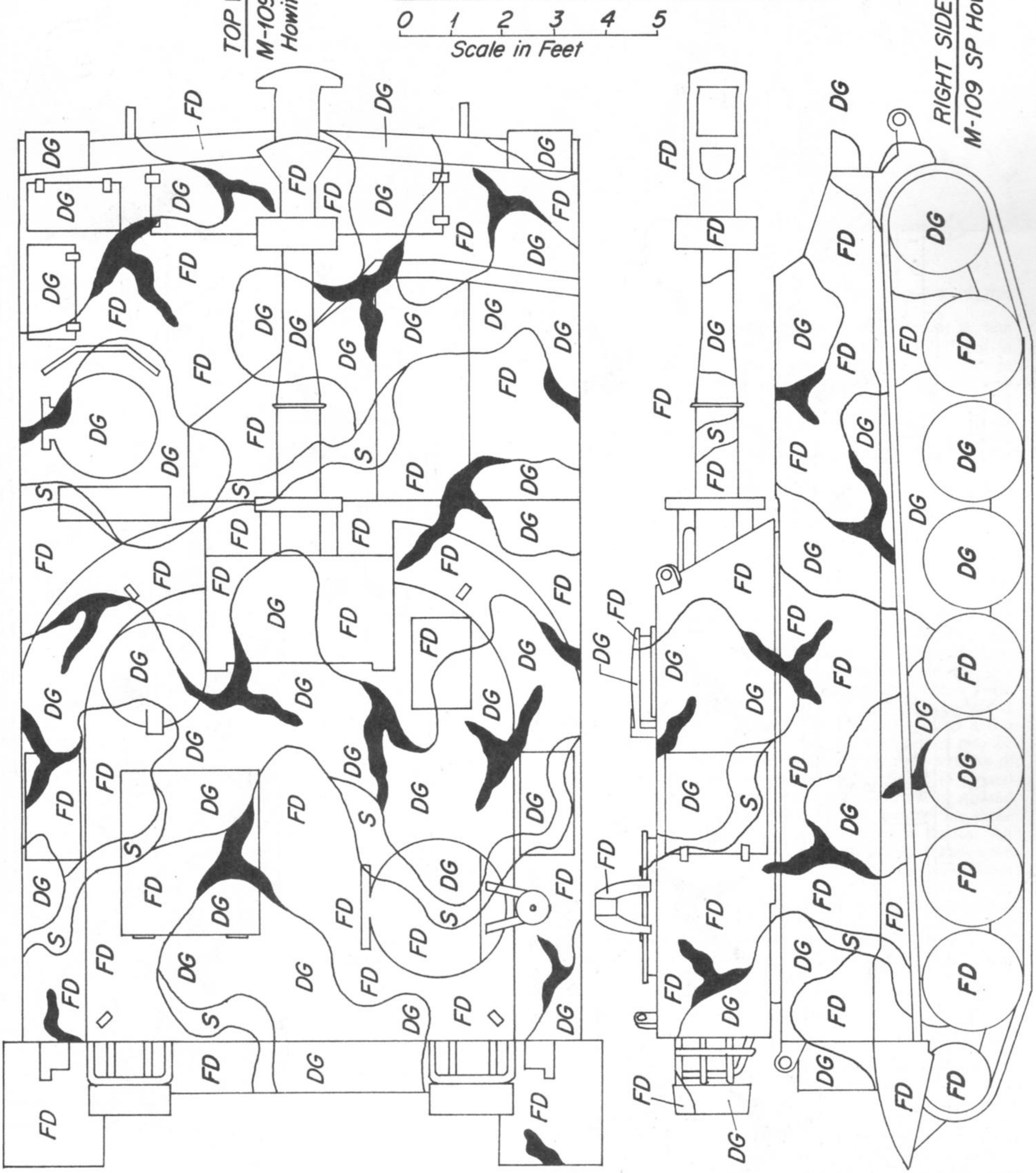


The two lower photographs show a simple but effective diorama constructed by Frank Kozari and Walter Schuman of New York City. The basic idea for this diorama was taken from the rear cover of the Altmark's 'Wehrmacht Divisional Signs' booklet, depicting a German military policeman giving directions in a scene believed to be near Smolensk, Russia. The cobble-stone road was made by pressing a three-row plastic die into U.S.G. Texelite paste spackeling putty, 1/8-inch thick and nearly dry. The die was alternated left and right with each pressing in order to stagger the rows of blocks. The road sides are Sculptamold with earth pressed into it while still wet, and then a sprinkling of packaged grass and small stone here and there. The signs are brush painted on fine 1/32-inch veneer, and are mounted on packing crates with additional boards for support.

Whether or not the flat-bed motorcycle sidecar was in use is a matter of conjecture, but it was added as an interesting feature. The lineman on the telephone pole and his assistant below with a tool box, as well as the walking medic (behind the pole in the photo) are plastic figure conversions; the medic is wearing the white front-and back smock which carried red crosses. The telephone lines are abbreviated in order to simplify the scene. Many of these same techniques may be applied to small dioramas or vignettes.

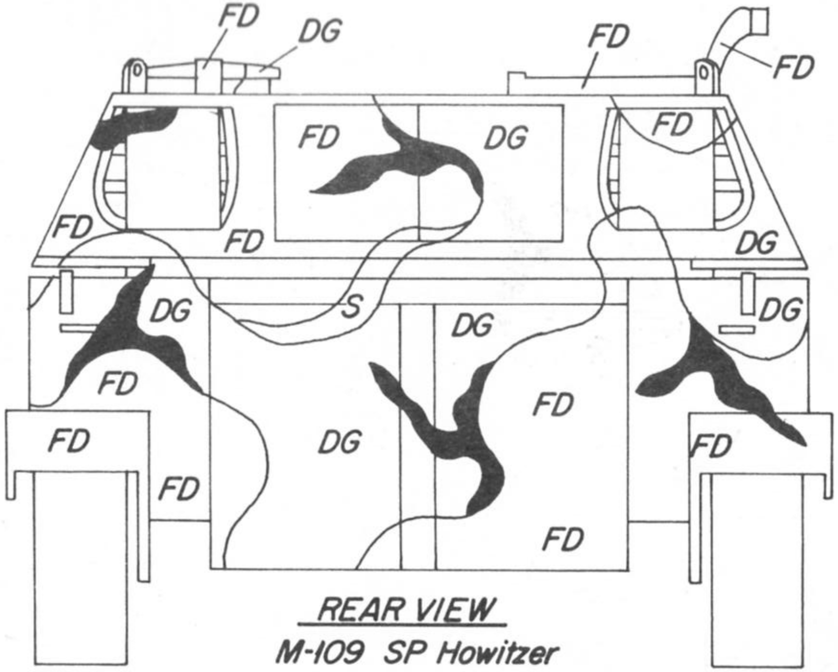
FIVE VIEW CAMOUFLAGE PATTERNS:

M-109 155mm SP HOWITZER

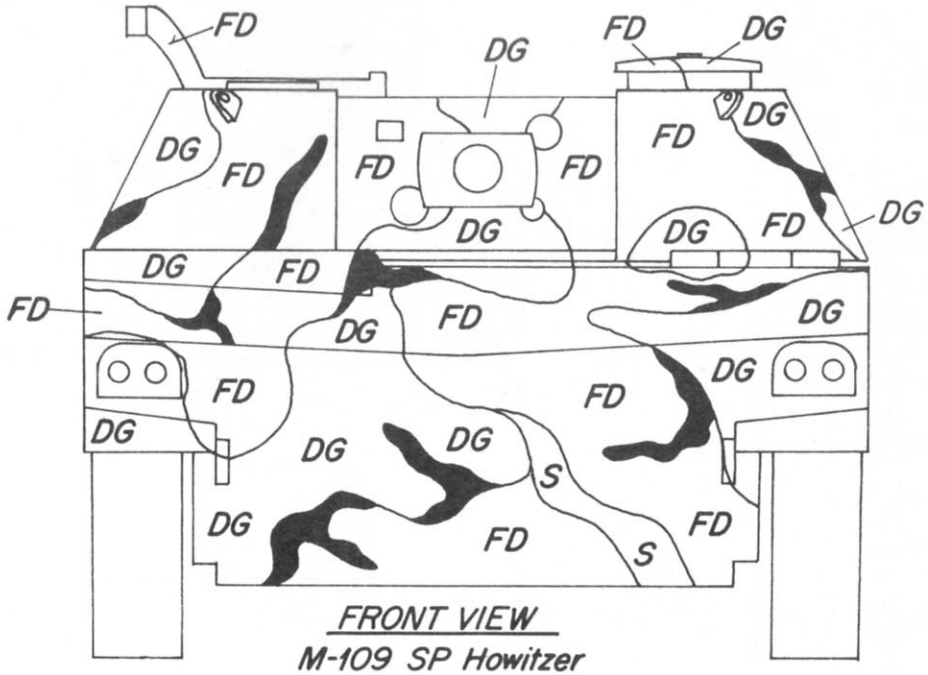


COLOR CODE

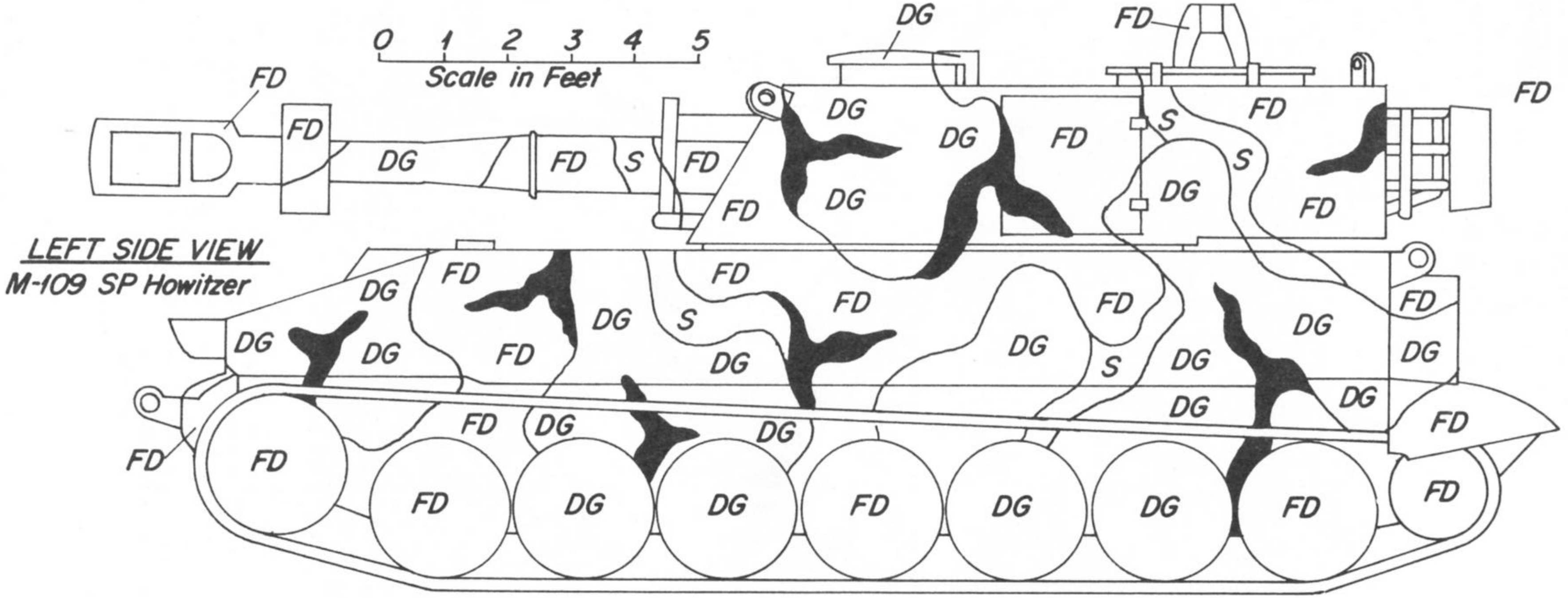
FD = FIELD DRAB 30118, S = SAND 30277
DG = DARK GREEN 34079, ● = BLACK 37038



REAR VIEW
M-109 SP Howitzer

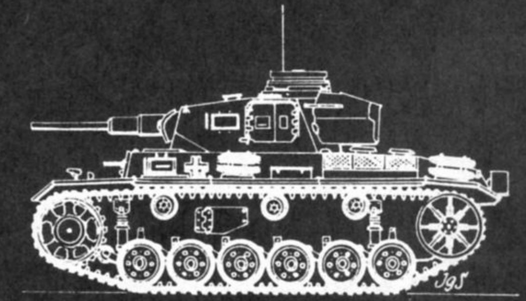


FRONT VIEW
M-109 SP Howitzer



LEFT SIDE VIEW
M-109 SP Howitzer

ARMOR MODELS IN REVIEW



ROCO Minitank's **Anti-Aircraft Tank 1BW 'Leopard'** in HO, 1:87th Scale.

Reviewed by Duane Thomas

One of the latest models from ROCO Minitanks is a very well-done miniature replica of the anti-aircraft tank version of the well-known West German 'Leopard' medium tank. Using the standard hull of the 'Leopard', this new Bundeswehr vehicle mounts twin 30mm anti-aircraft guns in a radar-equipped, fully-enclosed gun turret. The gun crew and radar operators sit between the two weapons, inside of the turret, operating a fully automated gun system which is sure death to low-flying, ground attack aircraft which fly into the zone of operation. Designed to be employed in front-line service, this vehicle is well equipped to survive on the modern battlefield of the 1980's and 1990's.

ROCO's new miniature accurately depicts the parent vehicle, complete with folding radar tracking antenna, elevating target acquisition radar antenna, and rotating turret. The model comes completely assembled in a blister-pack, and has only two small accessory parts: two smoke discharger racks (or at least that's what I think they are) to be installed on each side of the turret. The kit is cleanly molded in a dark olive green plastic, and it may be easily disassembled for clean-up and reassembly with cement. Some flash is present on parts, and care must be taken as the parts are quite delicate. As the hull is taken directly from the earlier ROCO 'Leopard' medium tank kit, it is complete with 'Leopard' fittings which should be modified or removed. For example, the travel lock clamp for the 'Leopard's' 105mm main gun tube is still evident on the rear hull of the anti-aircraft tank; use a sharp knife and a file to carefully remove this. Some molding pits are also present on the hull rear, and these should be filled with a modeling putty. All tools are molded-on types and depict the 'Leopard' tank stowage of tools. These can be filed off (carefully) and replaced with the appropriate HO scale railroad tools for greater accuracy and detail. The turret is very complete and accurate, even down to the velocity measuring tubes which run down the inside of the two 30mm gun tubes. Both radar antennae swivel and elevate, the turret hatch opens and closes tightly, and both guns elevate and depress.

This is an excellent HO scale model, which has detail usually only found on larger scale versions. This model is a must for all armor modelers who are interested in modern equipment. ROCO is to be congratulated on the accuracy and detail of this 'Minitank'.

AHM's (ESCI's) **Panzerkampfwagen II., Ausführung F German Light Tank** in 1:72nd Scale....

Reviewed by James Steuard

It came as a surprise to me that AHM is now marketing the excellent 1:72nd scale line of miniature vehicles manufactured in Italy by the ESCI firm. The subject of this review, the model of the German **Panzer II.**, **Ausf. F** light tank, was received from AHM, and it assembles into an excellent replica of this well-known German vehicle.

The **Ausführung F** version of the German **Panzer II.** was the principal version of this light tank during the fighting in North Africa. Mounting a 2cm cannon and coaxial light machine gun, this tank was too lightly armed and armored to cope with British anti-tank or tank guns, but the vehicle served reasonably well in the reconnaissance and screening roles. As the vehicle made-up a substantial number of the available German tanks in North Africa, modeling this tank is a must for any modeler interested in the desert fighting.

The AHM (or ESCI) kit of the Panzer II. makes up into an accurate and nicely detailed model of the original vehicle. The kit's 63 parts are cleanly molded in a sand-colored plastic (with tracks in a silver-gray vinyl) that is reasonably free from flash. Parts are small and care should be exercised when cutting then from the spruce trees. Our sample kit assembled very well, but liquid cement and a pair of tweezers are a necessity, as well as a fair amount of patience and time. All details on the tank's track covers are separate, with location holes pre-drilled in the upper hull piece. The engine grillwork is open and no cleaning-up is necessary. A separate hull frontal plate and two vision plates fit onto the upper hull, as well as a rear vision plate and a fender stowage box. The turret consists of 12 pieces, including separate weapons, a separate mantlet and a two-piece cupola and hatch. The turret rear storage box may be left off the tank, if you desire to duplicate an early version of this tank. The kit includes a standing officer figure (3 pieces) holding binoculars; this may be positioned either on the ground near the tank or in the cupola. Kit decals provide for three versions of the tank, two in North Africa and one in Russia. All of the decals in our sample kit were off register and were virtually useless. I would strongly suggest using decals from the Microscale line.

The AHM/ESCI kit of the German **Panzer II.** assembles into an excellent replica of this important light tank. With a little care in painting and marking your completed model, you could well have a prize-winning small scale model. This kit can be highly recommended.

AHM's **See-Niks Landscaping Accessories** in 1:48th and 1:87th Scales...

Reviewed by Wayne Larson

Recently received as samples from AHM (Associated Hobby Manufacturers) were a number of landscaping accessory kits, which are quite useful in small scale diorama construction. There are six different kits, and each provides material for the construction of six trees complete with foliage. The six different kits are: 3710L — Birch trees, 3710C — Elm trees, 3710D — Mimosa trees, 3710K — Maple trees, 3710B — Oak trees, and 3710M — Fir trees.

Each of the kits contains six tree trunks already assembled onto bases, a bundle of 'See-Niks' fiber, a packet of green

Continued on Page 44

The M60A2 Tank Company

The advent of the 152mm Gun/Launcher (and the vehicles which mount this new weapon) in the U.S. Army has brought with it a totally new concept in armored warfare: that of a long-range weapon which is capable of engaging armor accurately at extreme range (for conventional cannon) with a significantly high percentage of one-round kills. Until recently, this has been an impossible task, as conventional cannon accuracy drops off rapidly at extreme range, as does the performance of the anti-armor ammunition. As most readers are aware, the 152mm Gun/Launcher fires both 'conventional' ammunition (if a combustable-case cartridge can be considered 'conventional'), as well as a high-sophisticated guided missile. At longer ranges, the guided missile can be accurately steered so as to hit the target with a high percentage of hits (and kills). At closer ranges, the use of conventional ammunition with HEAT projectiles fired through the 152mm gun tube enables certain destruction of armored targets; the construction of the HEAT projectile is such that no known tank in the world can withstand a direct hit!

Significant numbers of these 152mm Gun/Launchers have been installed in a totally-different, low-profile tank turret, which has been installed on the chassis of the M60 Medium Tank. Initially designated as the M60A1E1, the vehicle has now been standardized as the M60A2 Medium Tank. During 1975-1976, numbers of these new tanks were assigned to armor units in Germany, and an intensive training program has been underway there in order to qualify crews and train units in handling the new tank.

Although the first M60A2's to arrive in Europe were assigned to companies of regular (M60/M60A1) armor battalions, it is the published intent of the U.S. Army to create armor battalions whose main weapon is the M60A2. Mixed battalions, containing both the M60/M60A1 and the M60A2 would have greatly increased problems in terms of maintenance and spare parts, since the two vehicles are radically different in turret mechanics and fire control equipment. In fact, the M60A2 is so complex that it requires specially-trained maintenance personnel (designated as Missile Tank Turret Mechanics), whose job is simply not compatible with the requirements for the earlier M60 or M60A1.

The basic M60A2 armored organization is designated as the 'Tank Battalion, 152mm', and is organized under Table of Organization and Equipment (TOE) 17-235H, dated 15 December 1975. This organization consists of the following units:

1	Headquarters & Headquarters Company	TOE 17-236H
3	Tank Companies, 152mm	TOE 17-237H
1	Combat Support Company, Tank Bn., 152mm	TOE 17-238H

The 152mm Tank Battalion consists of 35 officers and 524 enlisted men, and the battalion is equipped with 54 Medium Tanks. This article covers the organization and equipment of the basic combat element of the Tank Battalion, the 152mm Tank Company. Future articles will provide coverage of the battalion's Headquarters Company and Combat Support Company.

The M60A2 Tank Company is organized, as stated above, under TOE 17-237H. While structured similarily to Tank Companies equipped with other types of tanks, there are a few significant differences, especially in the Maintenance Section. The Tank Company consists of the following sub-units:

Headquarters Section
Maintenance Section
First Tank Platoon
Second Tank Platoon
Third Tank Platoon

As a small summary of personal weapons and personnel, the Tank Company consists of 5 officers and 84 enlisted men, who are armed with 72 pistols, 17 rifles and 1 40mm grenade launcher, in addition to sub-machine guns carried on the tanks.

The Headquarters Section of the Tank Company comprises the 'Command and Control' element of the unit, consisting of 2 officers and 15 enlisted men, and transported in five vehicles. These consist of two ¼-ton trucks, two M60A2 medium tanks, and one 2½-ton truck pulling a 1½-ton trailer. One of the ¼-ton 'Jeeps' is used as the Company Commander's personal transportation, while the second ¼-ton 'Jeep' is used by the company's First Sergeant and Communications Chief. The two-tank section makes-up the principal combat element of the headquarters, and the Company Commander may switch from his 'Jeep' into the lead tank as required by the tactical situation. The M35A2 2½-ton truck, under the control of the unit's Supply Sergeant, carries the normal housekeeping equipment, records and supplies for the company.

One of the most important elements of any Tank Company is its Maintenance Section, and this section is doubly important in an M60A2 equipped company. This is not to imply that the M60A2 is deficient in maintenance requirements, but it is a new piece of equipment which does require more maintenance in its turret systems. The Maintenance Section consists of 12 enlisted men, riding in four vehicles. This section is under the command of the unit's Motor Sergeant, under the supervision of the company's Executive Officer who is assigned the additional duty of unit Motor Officer. This officer and the Motor Sergeant are transported in one ¼-ton 'Jeep' which pulls a small ¼-ton trailer. The principal recovery vehicle of the section is an M88 Amrored Recovery Vehicle, crewed by two Recovery Operators. Most of the section's mechanic personnel ride in one M113 Armored Personnel Carrier, while one M35A2 2½-ton truck (pulling a 1½-ton trailer) provides cargo space for spare parts, tools and maintenance equipment. The M88 ARV can tow broken-down tanks, while the M113 provides good cross-country mobility to transport personnel to the field locations where their services are required.

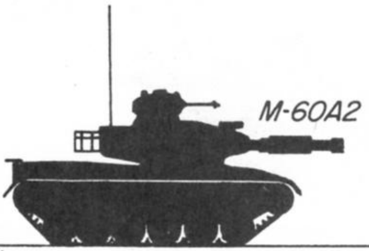
The major combat elements of the Tank Company consist of its three Tank Platoons which are identically organized. Each platoon consists of five M60A2 medium tanks, organized in two sections; one of two tanks and one of three tanks. The Tank Platoons are each under the command of a commissioned Platoon Leader, who also leads the three-vehicle tank section. The two-vehicle section is led by the Platoon Sergeant. In tactical operations, one of the tank sections can cover the movement of the other section with fire and observation; this concept of operations provides a good deal of flexibility in tactical movement.

As might be expected, the 'Mission' section of the Tank Company's TOE stresses its long-range anti-tank fire capability, and it should be understood that the long range afforded by the guided missile launching system represents quite an advantage over other tank gunnery systems. Obviously, the conventional tank gun operates at a considerable disadvantage at longer ranges. First of all, the degree of accuracy inherent in a tank gun tube drops off rapidly at longer ranges. Secondly, the penetration capability of inertia type anti-tank projectiles also drops off as velocity diminishes, and other types of anti-tank rounds (such as HEAT) have a slow velocity and long time of flight (giving the target vehicle time to evade the gunfire). The advantage of the M60A2 is that the guided missile, while it does travel at a relatively slow velocity, can be accurately steered onto the target vehicle by the gunner, even though the enemy vehicle may be moving in an erratic or evasive manner. Of course, the guided missile is a much more complex (and more fragile) system than a conventional round of ammunition, as well as being a much more expensive piece of hardware (some estimates range as high as $2,500 per round). On the other hand, since the missile can be steered, obviously the percentage of first round hits is quite high when compared to other forms of ammunition. Some estimates indicate that 95% first round hits can be obtained with the guided weapon, and almost all of these hits mean kills, since the missile warhead has great armor penetration.

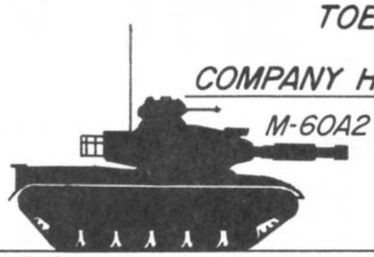
TANK COMPANY, 152mm GUN

TOE 17-237H, dated December 1975

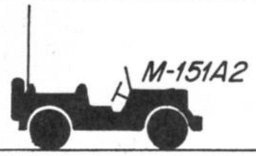
COMPANY HEADQUARTERS SECTION



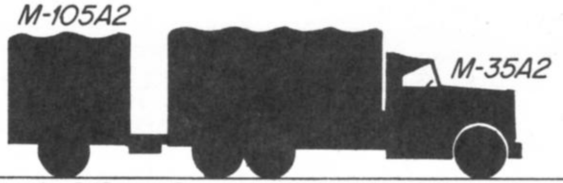
1 S/Sgt. Tank Commander (P)
1 Sgt. Gunner (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)



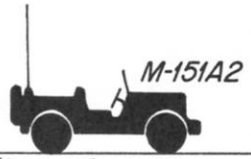
1 S/Sgt. Tank Commander (P)
1 Sgt. Gunner (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)



1 CPT. Company Commander (P)
1 PFC Driver (R,GL)

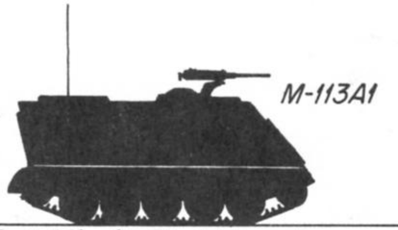


1 S/Sgt. Supply Sergeant (R)
1 Sp5 Unit Clerk (R)
1 PFC Driver (R)

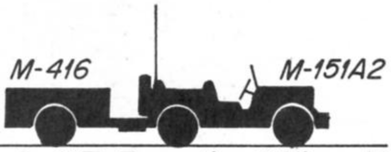


1 1/Sgt. First Sergeant (R)
1 S/Sgt. Communications Chief (R)
1 PFC Armorer-Driver (R)

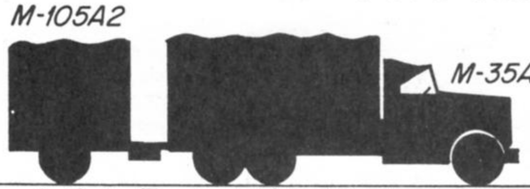
MAINTENANCE SECTION



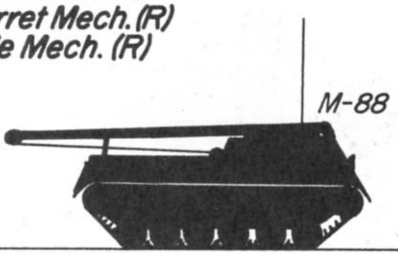
1 Sgt. Missile Tank Turret Mechanic (R)
1 Sp4 Msl. Tank Turret Mech.(R)
1 Sp4 Track Vehicle Mech.(P)
1 PFC Msl. Tank Turret Mech.(R)
1 PFC Track Vehicle Mech. (R)



1 1LT. Executive Officer (R)
1 P/Sgt. Motor Sergeant (R)
1 Sp4 PLL Clerk-Driver (R)



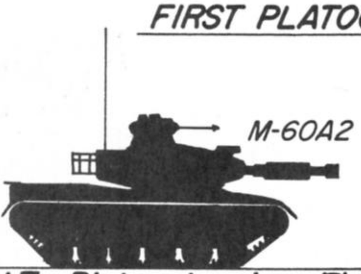
1 Sgt. Track Vehicle Mechanic (R)
1 Sp4 Field CE Equipment Mech.(R)
1 PFC Track Vehicle Mechanic (R)



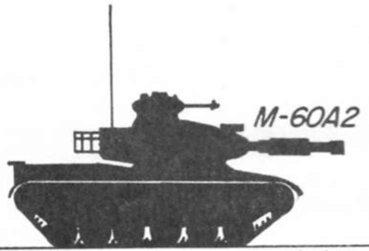
1 Sgt. Recovery Vehicle Operator (P,SMG)
1 Sp4 Recovery Vehicle Operator (P, SMG)

FIRST PLATOON

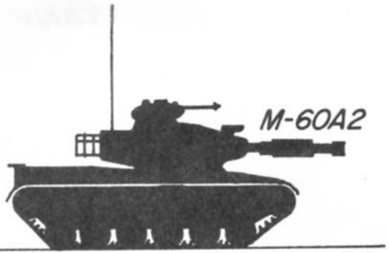
1 S/Sgt. Tank Commander (P)
1 Sgt. Gunner (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)



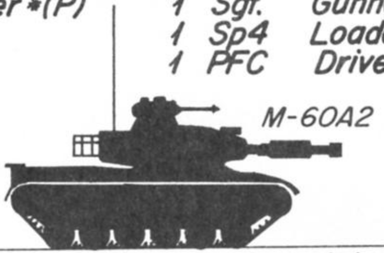
1 LT. Platoon Leader (P)
1 Sgt. Assistant Tank Commander * (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)



1 P/Sgt. Platoon Sergeant (P)
1 Sgt. Assistant Tank Commander *(P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)

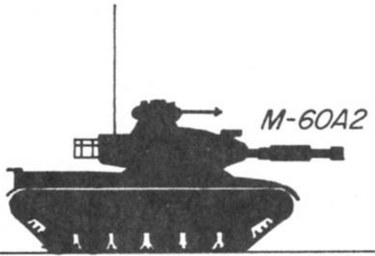


1 S/Sgt. Tank Commander (P)
1 Sgt. Gunner (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)

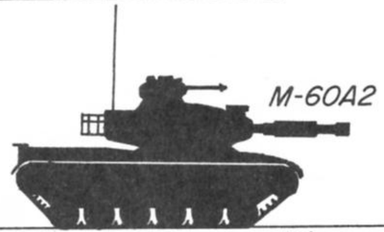


1 S/Sgt. Tank Commander (P)
1 Sgt. Gunner (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)

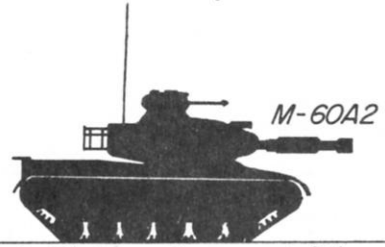
SECOND PLATOON



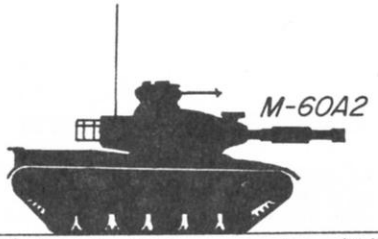
1 S/Sgt. Tank Commander (P)
1 Sgt. Gunner (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)



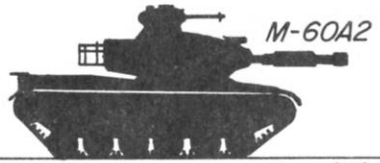
1 LT. Platoon Leader (P)
1 Sgt. Assistant Tank Commander*(P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)



1 P/Sgt. Platoon Sergeant (P)
1 Sgt. Assistant Tank Commander (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)



1 S/Sgt. Tank Commander (P)
1 Sgt. Gunner (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)



1 S/Sgt. Tank Commander (P)
1 Sgt. Gunner (P)
1 Sp4 Loader (P, SMG)
1 PFC Driver (P, SMG)

THIRD PLATOON is identical to FIRST PLATOON and SECOND PLATOON.

NOTE: * = Also Gunner.

ARMOR IN THE NEWS...

Controversy still continues to surround the U.S. Army's new *XM-1* Main Battle Tank. As many readers are aware, quite a number of discussions and tests have been held between the U.S. government and representatives of the Federal Government of Germany, first to decide whether or not the U.S. would produce the German *'Leopard'*, or if the West Germans would produce the *XM-1* for their own use. Out of these discussions came the agreement that each nation would produce its own vehicle; however, each vehicle would utilize a number of 'common components' in an effort to achieve some basic sort of standardization. Discussions have continued, along with tests, in an effort to further deliniate what these 'common components' would be.

One of the major areas of contention now surrounds the 'common component' main gun. There have been a number of choices for this standardized weapon... First, the familiar U.S. 105mm rifled gun which is now used in the M60 family of tanks. This weapon has been made more potent through a new type of ammunition, which supposedly has far better penetration and performance. Secondly, the Germans have introduced a 120mm smoothbore, which offers flat shooting and higher velocity. In addition, the British 120mm rifled gun has entered the picture, with a wide variety of already-developed ammunition. Which gun to choose? Well, apparently the competition is still going on... Some shooting tests took place this last fall in the United States, evaluating the West German and U.S. weapons. The U.S. Army now claims that the Germans did not submit sufficient ammunition to complete the *Leopard* tests, and provide a basis for an evaluation. On the other side, tests of the 105mm gun and its 'improved' ammunition did not go as well as was hoped. As a result, it was recently announced that *'no decision will be made in regard to armament until December of 1977'*.

What does this mean in terms of German and American production of new tanks? The end result, to date, is that the first production runs of the Chrysler-built *XM-1* will be fitted with a 'hybrid' turret which could mount either of the two main guns; the 105mm or the 120mm smoothbore. Concentration will be, however, on the U.S. rifled gun. In Germany, the decision is (apparently) to produce the *'Leopard II. AV'*, which also features a 'hybrid' turret to mount either the 105mm or the 120mm weapons. It should also be mentioned that this new German tank will also feature 'Chobham' armor (from Britain) for better and greater protection.

What about the performance of the U.S. 105mm gun, which is basically the same gun as used by Britain and West Germany? There have been a fair number of problems in U.S. tank ammunition, and these problems are now surfacing since the Carter administration took office. According to *'Armed Forces Journal'*, a candid U.S. Army document, titled *'Problems with 105mm Tank Ammuntion'*, reveals 'erratic flight behavior' of the 105mm APDS projectile, 'especially when fired from worn tubes'. It also mentions that 'premature bursts in or just in front of the gun tube' have been observed when using HEP and HEAT rounds. Apparently, recommendations for 'corrective action' are just now being made! Why just now? Most tankers who have been shooting the gun of the M60A1 or the M48A5 have noticed the erratic flight flight... every now and then, an APDS shot takes off at a tangent or hits the ground in front of the tank and is deflected from the target... and this is through no fault of the gunner, even though observers have tended to place the blame there. Hopefully, the new 'improved' ammunition is exactly that... 'improved' to eliminate the erratic flight or premature bursting problems... It appears that the U.S. Army is 'renovating' existing stocks of APDS rounds in an attempt to prevent the erratic flight problems, and we sincerely hope that this renovation will not take too much time, as time is not on our side (to paraphrase an old song...).

The West German *Leopard* medium tank has proven to be a popular tank in nations other that Germany; these countries include Italy and Spain. News has reached us to the effect that Canada has now joined the *Leopard*-using countries, purchasing an unspecified number of newly-constructed *Leopard II.* tanks from Kraus-Maffei, the manufacturers of the tank. Since it will take some time for the new medium tanks to be built for the Canadian Army, the Canadian armored units in NATO are being provided with rebuilt *Leopard I.*'s from German *Bundeswehr* stocks. This news comes from one of our Canadian readers who is directly involved in training with the rebuilt *Leopards*. By providing the Canadians with the older, re-built tanks, the Canadian Army can begin to work-up on this tank in advance of receiving the brand-new vehicles. Although little has been said on how the Canadians like their ex-*Bundeswehr* mounts, it is obvious that they are more modern than the old, tired Centurions which soldiered-on for so long in the Canadian Army...

We have received some additional information on the new Soviet medium tank which has been variously reported as the *T64*, *T70* or *T72*. Although this tank uses the same 115mm smoothbore gun that is on the *T62*, apparently quite a few changes have been made in turret layout. This tank reportedly has a three-man crew consisting

Continued on Page 44

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Realism... Soviet Vehicles used in Training (Continued from Page 30)

three vehicles in the country.

Taylor said that the use of the three vehicles by Seventh Army units will be scheduled during the quarterly range conference between training center authorities and units to undergo training at the training center. He said the vehicles arrived in Germany about two moths ago (February 1976).

'The units that have sent soldiers to be briefed on the Soviet vehicles have indicated that they have been very impressed. It's the first chance they've had to see, touch or feel at first hand Soviet combat hardware,' said Taylor.

Taylor said that the BTR-152 is an old wheeled personnel carrier that is still used by some Warsaw Pact units, but is being phased-out. He said the BMP has become the standard armored personnel carrier for East Bloc infantry units.

'Soldiers seem to be more impressed with the BMP than the T62 because the BMP is more sophisticated,' Taylor said.

Taylor said that when the vehicles are taken out for training, they are supposed to be covered with canvas.

First Lieutenant Alan F. Harris is the field maintenance officer at the Combined Arms Training Center responsible for maintenance of the three vehicles. Harris said that Army authorities here have been directed not to change the outside appearance of the vehicles.

He said that because the vehicles are not as sophisticated as some American-built combat vehicles, the Soviet vehicles are easier to maintain.

'I would say they are extremely durable vehicles. In certain areas, they are built so they do not require a lot of maintenance and so parts don't wear out quickly.'

But both Harris and Taylor agreed that after having been around the T62 Soviet tank, they believe that the American M60A1 product-improved tank is a much better tank.

The above article originally appeared in the European edition of 'Stars and Stripes', and is reprinted here by kind permission of this publication. Special thanks are extended to CPT R. P. Vaughan for providing the original article.

Model Reviews (Continued from Page 39)

foliage, and a four-page instruction sheet. The instruction sheet provides numbered steps for construction, and is clear and self-explanatory. The tree trunks are injection molded in one-piece, and all six trunks are identical During construction, a candle or open flame should be used, ala sprue-stretching, to soften the plastic tree limbs so that they can be bent, twisted and repositioned. With a little care, every tree can be re-formed differently. After painting of the tree limbs and trunks, the next (basic) step consists of the application of the 'fiber' material to the tree limbs as a base for the attachment of foliage. The fiber is attached with white glue or airplane cement and then left to dry. Next, the mounted fiber is sprayed with aerosol adhesive or brushed with plastic cement. Then the foliage is sprinkled on until the desired effect is reached. The result is a tree which is complete with scale leaves....

While obviously meant for model railroad landscaping, these tree kits are most useful for armor modelers who are interested in the construction of small scale dioramas. Although the tree trunks look 'toy-like' before assembly is started, careful work yields an excellent and most realistic looking miniature tree. There's a good deal of variety which can be built-in to the trees by careful bending and twisting of branches, and the end result from our sample kits really looks excellent. We recommend looking for these miniature tree kits at your local hobby shop, or contact AHM directly......

Armor in the News (Continued from Page 43)

of a tank commander, gunner and driver. Reloading of the main gun is accomplished through an automatic mechanism which eliminates the loader completely. Not only is reloading time decreased, this mechanism reportedly eliminates the need to elevate the main gun between rounds. The reloading mechanism holds a number of rounds, probably four or five, and after these are fired, it must be reloaded before action can be resumed. Obviously, the crew can engage only a few targets (like four or five each with a single round), and then must break off combat while the crew reloads the automatic mechanism. We'll report more on this vehicle as information is received...

First In Last Out (Continued from Page 13)

Vickers Medium D Tank, 1929, One purchased in England.

Universal Carrier (Bren Carrier), 26 purchased in England.

Churchill Mark IV., 1948, Four purchased in England.

Comet, 1956, Eight purchased in England.

Peerless Layland, 1933, Leyland Terrier chassis with Peerless armored hull and Landsverk turret, engine later replaced by Ford V8, built by Armored Car Corps Workshops using welded rather than riveted armor.

Mark I., 1934, Unofficial title for experimental armored car on Morris chassis,

Continued on Page 47

Marking British Vehicles (Cont'd from 18)

the bridge plate for use elsewhere.

The second set of markings is valid for the 20th Anti-Tank Company (not Battalion), 20th Australian Infantry Brigade, 9th Australian Division — but only for the period between March 1941 and October 16, 1941, when the Anti-Tank Comapny was disbanded. Of course, the C15A 15-cwt. was not issued until the following year. To correct this, it is necessary to change the Unit Serial Number from '33' to either '91', '80', or '52' on a red square. This idenfified the vehicle as belonging to the 2/13th, 2/15th, or 2/17th Australian Infantry Battalion in October 1942.

The British example from '21st Tank Brigade Anti-Tank Regiment, 1st Company' is a physical impossibility. British Tank Brigades did not have an Anti-Tank Regiment attached, and the unit Serial Complex shows a divisional R.A.S.C. Unit Serial Number with a 'Corps Troops' bar. An accurate arrangement would change the Formation Sign to that of the 'Mailed Fist' of 6th Armoured Division. Trim the white bar from the Unit Serial Complex, and the result becomes the regimental clerk's truck from the 72nd Anti-Tank Regiment Headquarter, 6th Armoured Division, in Tunisia 1943. The Battery Mark from the Peerless/Max Bedford Portee' kit can also be used in place of the 'A2' code, combined with white letters to form the vehicle codes shown in Table 3. Thus, it is possible to designate the other vehicles in the regiment.

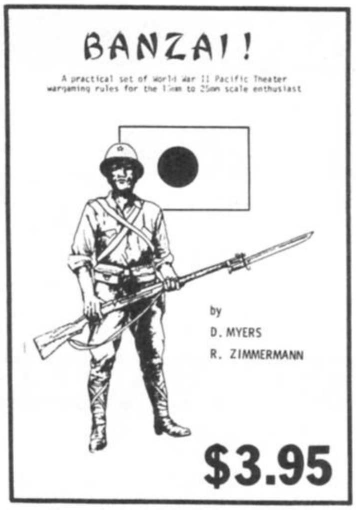
The last example is almost correct, but not for the unit which is listed on the instruction sheet. The Arm-of-Service Flash should be the red and green R.A.S.C. pattern instead of a red square, and of course, the white bar at the bottom should be removed. This gives you the Headquarters truck of the 5th Canadian Armoured Brigade R.A.S.C. Company. Of course, by chaning the Unit Serial Numbers, you can convert your truck to any other unit in the division.

These, along with the four new sets of marking included with this article should provide a guide to a great variety of markings possibilities for your 15-cwt. truck.

Baron's Bookshelf (Cont'd from Page 35)

cursory look at each piece of equipment. I found the coverage of the 80cm 'Dora weapon to be fascinating, providing excellent coverage of this huge gun system, but I found the coverage to be much too brief to present a complete view of the weapon and its deployment. I can only hope that a second publication will later be made available, providing greater coverage of railway artillery. Although Squadron/Signal's new book is excellent, I have the feeling that there is much more material to be uncovered on this subject, and that this first effort just scratches the surface.

Our review sample of this book was provided by the publisher.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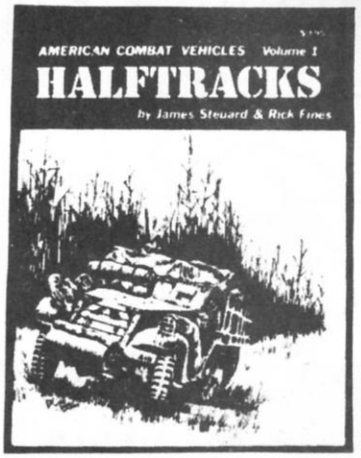
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Muzzle Blast (Continued from Page 4)

If it is possible, I would like to make a request for coverage in the 'Marking British Vehicles' series for the following vehicles:

Daimler 'Dingo' Scout Car
Willy's Jeep in British Service
M10 Tank Destroyer

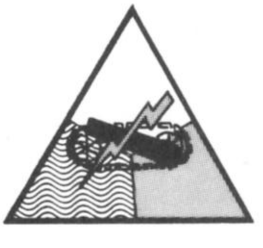
I would also like to request more articles on the fighting in North Africa. While I am interested in all aspects of armored warfare, I must admit that the battles in North Africa during 1942-43 still interest me the most. How about some coverage on the battles fought in Tunisia during 1943? I find few accounts of this period and I think there are other readers who would also be interested in this subject area.

Sincerely yours,

Tom Lewis
Miami Beach, FL

AND SOME EDITORIAL COMMENTS...

There must be hundreds of local and regional modeling contests that take place each year throughout Canada and the United States. Many of these are sponsored by the International Plastic Modelers Society (IPMS) and present some of the finest model construction to be seen anywhere. In many cases, these modeling contests are excellent places to learn more about accurate scale modeling, and we would like to do our part in encouraging and supporting these model contests. Look in the Classified Advertising section of this magazine, and you will find notices or announcements for three of these model contests. This form of advertising is provided FREE to help promote model contests and inform readers of their existance. If you are involved in planing, sponsoring or participating in the running of a model contest and are seeking publicity, why not let us help out? All we request is that you send us complete details on the contest: where it is to be held, when it is to take place (including model registration times), and who the sponsors of the contest are. Please send us this information **at least three months** prior to the event. We will insert the information into the next issue of AFV-G2.



First In, Last Out (Cont'd from Page 44)

resembled official Mark VII., horizontal radiator louvers, built at Islandbridge Barracks (now Clancy).

Mark II., 1941. Unofficial title for experimental car on Ford 30 HP. 137-in. wheelbase cut to 133-in. Peerless turret, armor plate not available during World War II., so mild steel plate was used.

Mark III., 1941. Unofficial title for experimental Ford car with Peerless turret. 157-in. wheelbase shortened to 122-in., one car built by the Cavalry Workshops.

Mark IV. Mark III. as above but with new turret.

AML60, 1962. French Panhard armored cars with 60mm mortar and machine gun, 24 purchased in all.

AML90, 1973. French Panhard armored cars with 90mm low velocity gun, 8 purchased in all.

M3 VTT, 1974. French Panhard armored personnel carriers, 50 purchased in all.

Unimog. German chassis, armored by Landsverk, intended for use by Swedish forces in the Congo, but sold to Ireland as surplus. 17 obtained.

Timoney Mark I., 1975. Cab-over-engine type 4x4, unit faceted hull, welded, rectangular driver vision opening with small lift-up cover, triangular side vision openings, side doors across hull bevel, rectangular firing ports in front bevel and either side of door, also rear door.

Timoney Mark II., Amphibious, higher glacis, side hull doors in lower hull bevels, engine in rear, recessed top rear engine louver, low forward-mounted six-sided turret with low velocity gun.

Timoney Mark III., Hull similar to Mark II., rectangular driver opening, center-hinged flat top driver compartment cover with front vision block, three firing ports on left side, two on right, squat faceted, center-mounted turret with dual machine guns, built to Cavalry Corps specifications.

Timoney Mark IV. Similar to Mark III., but with driver rood cowl bolted on for access to engine, front and side vision blocks.

The author expresses his appreciation to Messrs. Adrian English and Denis McCarthy, and to Messrs. Timoney Brothers for their assistance, to Mr. Glenn Thompson who drew the plate of uniforms and to Commandant Costello, Editor of *'An Cosantoir'* for permission to reproduce it in this article.

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FOR SALE: Armor, military and war-gaming books and magazines; many rare or sale items; send stamp for catalog. J. H. Randolph, 7344 Creekwood Drive, Cleveland, Ohio 44133

FOR SALE: Micro-armour at cut-rate prices, up to 50% off. American, German and Russian. Send for list to: Steven Bratcher, 1219 Rahway Avenue, Westfield, N.J. 07090

WANTED: Information on, and/or photos showing the **COLOR SCHEMES** and **MARKINGS** of the following A.F.V.'s:

North Vietnamese and Viet Cong AFV's during Vietnam War.;
South Vietnamese (A.R.V.N.) AFV's and APC's during Vietnam War.;
Indian and/or Pakistani AFV's during 1965 and 1971 Wars.;
Egyptian and Syrian AFV's during 1965, 1967 and 1973 Arab-Israeli Wars.;
Israeli M113 APC's during 1973 (Yom-Kippur(War.;
Cuban-crewed Russian AFV's used by the M.P.L.A. during 1975-76 Civil War in Angola.;
Nationalist and/or Republican AFV's during Spanish Civil War.;
Bolivian tanks, tankettes during Gran Chaco War with Paraguay, 1932-35.;
Polish AFV's in September 1939.

Contact: Charles Perkins, 832 Ridge Road, Hamden, Conn. USA 06517

ANNOUNCEMENT: Once again it is time to start building your models (Plastic) for the Second Rochester Historical Scale Model Association's Invitational Contest in **October 1977**. For further information, send a self-addressed, stamped envelope to: Mr. George Hamston, 713 Laureton Road, Rochester, NY 14609

ANNOUNCEMENT: The Annual Arizona Hobby and Craft Show will be held on May 21st and 22nd, 1977, at the Civic Plaza in Phoenix, Arizona. Entries will be accepted from 12:00 p.m. to 7:30 p.m. on Friday, May 20th. For further information, Contact: Val Valleroli, Val's Hobby Hanger, 5858 W. Camelback Road, Glendale, Arizona 85301

ANNOUNCEMENT: The 4th Annual Competition and Exhibit of the Los Soldados Pequenos Miniature Soldier Club will be held in conjunction with I.P.M.S. Space Park, the largest IPMS Chapter in the US. The competition will be held at Patriotic Hall, 1816 So. Figueroa Street, Los Angeles, CA on June 18th and 19th, 1977. Agenda: Films, Workshops, Living History Lectures, Miniatures Competition and Plastic Model Competition. For further information, contact: Lonnie Raidor, 1336 Voorhees, Manhattan Beach, CA

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